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ABSTRACT

The conceptual framework behind the model of aggregate U.S. Employment Service (ES) productivity is described in this report (and the companion volume of appendixes) along with the illustrative estimates of ES productivity using the model. Chapter 1 introduces the question of productivity measurement in a social purpose. Chapter 2 contains a discussion of pertinent research findings and other documents reviewed in order to develop a fundamental understanding of the economic role of the ES. Chapters 3 and 4 identify and analyze the economic and social outputs of ES labor exchange activities. Chapter 5 evaluates the work test aspects of ES enforcement activities. Both chapters 4 and 5 include estimates of the value of ES outputs on the basis of fiscal year 1974 data. Chapter 6 combines illustrative value estimates of output and transfer savings by State and also reports on a sensitivity analysis of these estimates to uncertainty affecting various dimensions of the management process. Conclusions and recommendations are summarized in chapter 7. (WL)

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BCS BOEING COMPUTER SERVICES, INC

THE UNITED STATES EMPLOYMENT SERVICE:

A CONCEPTUAL MODEL OF OUTPUTS, VALUES, AND ILLUSTRATIVE ESTIMATIONS

VOLUME I: FINAL REPORT

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16. Abstracts

This study is a conceptual exploration of the various activities of the U.S. Employment Service and the development of comprehensive measures of output and productivity. Most final outputs of the ES are either labor exchange or enforcement activities. Illustrative measures and calculations suggest that the "social value" of the latter accounts for about 27% of ES benefits, while the former about 73%. Under moderate assumptions, it appears that the social return of the ES exceeds its annual costs. The report and appendices contain fairly extensive bibliographies and a literature survey.

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PREFACE

This document is part of a two-volume final report of a Boeing Computer Services, Inc. (BCS) study entitled "The United States Employment Service: A Conceptual Model of Outputs, Values, and Illustrative Estimations." Volume I of the report summarizes the work and findings under Contract 20-11-75-50 awarded to BCS on August 1, 1975 by the Office of Policy Evaluation and Research, Employment and Training Administration (formerly Manpower Administration), United States Department of Labor. Appendices are contained in Volume II. The Project Officer for the contract was Mr. William K. Showler, and Associate Project Officer was Mr. Irvin Wingeard.

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1.0 INTRODUCTION: PRODUCTIVITY IN A SOCIAL WELFARE CONTEXT

The purpose of this effort has been to develop a conceptual framework for identifying, combining and weighting the diverse outputs of the United States Employment Service into an over-all aggregate measure of social productivity. Measures were sought which:

- Indicate the nature of outputs resulting from ES inputs and reflect how ES resources are being allocated and with what results;
- Could assist state and local ES managers in gauging the relative efficiency of their respective offices; and
- Provide national and regional management staff an indicator of the relative efficiency of state ES agencies, and thereby a basis for allocating scarce resources more effectively.

In the course of the study it became apparent that by using various proxies and parametric estimates available from recent research, the conceptual approach could, in fact, be illustrated with a sample of actual transaction data from all but six states. While the data used were highly tentative -- in many cases based on small experimental samples -- it was felt that these illustrations would have a number of useful applications. First, by combining all the various components of the aggregate measure, the model could be used to demonstrate how sensitive the results were to uncertainty about its various components. Second, these illustrations would be the first (to our knowledge) estimates of total ES factor productivity, and although highly speculative, they would also represent a target for improvement through subsequent empirical development of the component measures. Thus, in our view, the illustrative estimates are useful in focusing on empirical information that is needed for evaluating the ES and demonstrating the relative importance of such information in a conceptual framework for aggregating the component measures.

This report and the companion volume of appendices describe the conceptual framework behind the model of aggregate ES productivity and present the illustrative estimates of ES productivity using the model. The present chapter introduces the question of productivity measurement in a social welfare context and discusses the relationship between productivity and purpose. Chapter 2.0 contains a discussion of pertinent research findings and other documents reviewed in order to develop a fundamental understanding of the economic role of the ES. Chapters 3.0 and 4.0 identify and analyze the economic and social outputs of ES labor exchange activities. Chapter 5.0 evaluates the work test aspects of ES enforcement activities. Both Chapters 4.0 and 5.0 include estimates of the value of ES outputs on the basis of fiscal year 1974 data. Chapter 6.0 combines illustrative value estimates of output and transfer savings by state and also reports on a sensitivity analysis of these estimates to uncertainty affecting various dimensions of the management process. Conclusions and recommendations are summarized in Chapter 7.0.

1.1 Social Welfare Considerations in Defining and Measuring the Productivity of the USES

"Productivity is loosely interpreted to be the efficiency with which output is produced by the resources utilized. A measure of productivity is generally defined as the ratio relating output.....to one or more of the inputs....which are associated with that output. More specifically, it is an expression of the physical or real volume of goods and services related to the physical or real quantities of inputs......"*

"For all productivity measures the concept is one of work done or the amount of product added in the various enterprises....In this sense, at the plant level, productivity measurement differs from work measurement. Work measurement generally refers to the analysis of the stages of activity and the requirements at each of these stages. Productivity refers to the finished product (the result of activity) and its relationship to input."**

Measurement of productivity and productivity change in the government sector presents particularly difficult conceptual and statistical problems, mainly because the "market" for the output and some of the inputs utilized frequently do not have explicit prices. Further difficulty in assessing government sector productivity inheres in the problem of delineating final from intermediate products. And finally, there exists the complex problem of aggregating disparate types of output and adjusting for differences in quality. "The subject of quality has often come up in our deliberations and in our discussions with others. If productivity indices are to be reliable, the quality of the work output must either remain constant or it must be measurable. One obvious reason why this is so is that, without control, an increase in productivity may be at the expense of quality. We feel that research and development into quality/quantity relationships and development of qualitative measures, must have a high priority."[1]

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*Mark, Jerome A., U.S. Department of Labor, "Meanings and Measures of Productivity," Public Administration Review, No.6, November/December 1972, p.748.

**Ibid, p.748.

[1] Morris, Thomas D.; Corbett, William H.; Usilaner, Brian L., "Productivity Measures in the Federal Government," Public Administration Review, No.6 November/December 1972, p.763. Cf also, A Study of the Joint Economic Committee, U.S. Congress, "Measuring and Enhancing Productivity in the Federal Sector", 92d Congress, 2d Session, Washington, D.C. 1972.

With respect to the derivation of social value weights, "society can be thought of as an independent entity possessing its own value orderings, not necessarily an aggregation across individual utility but rather across individual political influence and tolerance." Thus, it is possible to express conceptually "the public interest (or "social welfare") as a function with several arguments,

$$U = U(Z_1, Z_2, \ldots\ldots\ldots\ldots Z_n)$$

where the Z's are different aspects of the public interest, such as economic efficiency (or contribution to national income), the pattern of income distribution, the rate of economic growth, balance of payments equilibrium ......" To the extent that the arguments are measurable only along different dimensions, there is an implicit weighting or tradeoff problem among conflicting objectives (i.e., aZ_i vs. bZ_j). Professor Steiner viewed the choice of weights themselves (the values of a and b) as an important dimension of the public interest.*

It is with this recognition of the concept of an underlying "social welfare function" that we have approached the question of the production of the U.S. Employment Service. We include in our analysis and in the subsequent productivity model consideration of efficiency effects as well as income distributional aspects. While it is most likely not an appropriate research goal to attempt to specify the "socially optimal" weights for the Z's, competent analysis should keep them in conceptual perspective and perhaps point out the implications of nominally "unweighted" outcome measures. Thus, in our approach to develop an aggregate measure, we consider both output and transfer effects, although leaving the question of weighting these two elements open.

Basil Moore, in his 1966 analysis of the USES for the Bureau of the Budget,** posed a number of conceptual and empirical issues in terms consistent with such an evaluation perspective. Briefly, his considerations provided the following views:

1. The Economic role of the ES is to improve the efficiency of the labor market. Although there are private sector counterparts (employment agencies), less-than-perfectly competitive labor markets would not produce an economically efficient allocation of resources. The private market "failure" was cast in terms of potential externalities (a condition when private costs of benefits diverge substantially from social costs or benefits). The nature of labor market information as a "public good" was also put forth as a reason for the existence of the ES.

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*Steiner, Peter O., "The Public Sector and the Public Interest," The Analysis and Evaluation of Public Expenditures: The PPB System, A compendium of papers submitted to the Subcommittee on Economy in Government of the Joint Economic Committee, 91st Congress of the U.S., Vol. I, Washington DC 1969, pp. 13-45.

**"A Benefit-Cost Analysis of the United States Employment Service" November 1966, pp. 1-16.

2. Redistribution of income (cf., the priority weights of the Balanced Placement Formula discussed below) to particular classes and regions and the promotion of particular social values (especially private responsibility and individual self-sufficiency) were also noted as distinct and important objectives of government policy.

3. Economic efficiency alone did not seem to justify the public "displacement" of private sector provision of placement services, but the redistribution of income in a particular form (i.e., through the discipline of working instead of only unearned transfer payments) was perceived to be a matter not of indifference to society. Moore postulated that a "weighted sum" of economic efficiency and income redistribution goals be considered in such a measure of the trade-off, given that the relative values could be agreed upon between the Congress and the Executive.

4. There should be judicious caution in comparing a given individual's experience with and without USES placement assistance. This is not "equivalent conceptually to comparing the experiences of different individuals, some of whom are USES applicants and some who are not. The two groups are likely to differ in important aspects since there is a self-selection process in the sub-set of the total universe of unemployed who apply to USES. Those who apply and are placed may be more or less able than the rest of the unemployed with whom their unemployment and income records are compared." We have tried to follow these principles in our development efforts.

1.2 Productivity and Purpose

In addition to the above qualifications, the question of the purpose of productivity measurement must be considered in defining and measuring Employment Service final outputs. In particular, we distinguish between productivity concepts appropriate for ex-post measurement of performance evaluation and those appropriate for ex-ante planning and budgeting for future expected activity levels. Planning and budgeting are conducted prior to allocation decisions and are intended to develop a realistic plan of service based on expected demands and returns, to create the desired incentives, and to allocate resources accordingly. Evaluation is an after-the-fact assessment of performance and supports follow-through on promised rewards or penalties. Among the ex-post evaluation concepts, we distinguish those which provide absolute measures of overall efficiency (and are appropriate for evaluation across programs) and those which provide relative measures of efficiency (and are appropriate for evaluating relative performance within programs). Absolute efficiency rarely submits easily to measurement in an environment where no prices are charged for outputs; measurement of absolute efficiency of public services in the presence of prices reflecting true social values is often tractable, if at all, only in the form of range estimates. Relative efficiency may be more easily measured as long as qualitative dimensions of output can be identified and which can be presumed proportionate to value. Developing relative measures of ES productivity which come as close as possible to absolute measures was one of the major tasks of this project. Various partial or diagnostic measures, including measures of physical productivity of specific inputs such as labor and capital, can also help analyze and interpret the over-all measures.

1.3 Comprehensive Evaluation Measures

One measure of over-all economic investment productivity is the rate of return on dollars invested. The rate of return measures the economic "payoff" of a program, and offers a comparison with other potential uses of funds. If the (social) return on dollars invested in a program is at the margin equal to that for all alternative uses of the funds, real social output cannot be increased by any reallocation of resources. In other words, such a measure demonstrates whether the existing resource allocation to the program is relatively efficient, and whether society is obtaining the maximum value of goods and services producible with the resources. The rate of return is expressed as the sum of all outputs produced over a given time period weighted by their values (or market prices modified by any societal values not reflected in the pricing system) divided by the sum of all resource costs. Because this measure expresses the productivity of all resources used in terms of values which may be compared with any other program or investment, it allows comparison of productivity across programs producing entirely different outputs or services, if they are similarly evaluated with regard to social returns. In an environment where goods and services are provided free of charge to consumers, these measures are extremely difficult to obtain. At best, they can only be estimated with varying degrees of confidence or stated in terms of a range of values for a given confidence level.

Total factor productivity is another over-all productivity measure. The difference between the rate of return and total factor productivity measures is that the latter is constructed by using physical output weights which are proportional to social values but are not precisely measurable in dollar terms. Total factor productivity expressions can indicate the relative efficiency of resource allocations within programs producing similar outputs but cannot be used in an absolute sense to make comparisons with alternative resource investments without first translating output weights into relative social value terms. The present Balanced Placement Formula is an example of a partial productivity measure where the output weights have also been adjusted to reflect a given set of social (distributional) priorities for different groups benefiting from ES services.

1.4 Diagnostic Measures

The advantages of both the "absolute" and relative measures are in providing a single criteria for evaluating over-all performance of a program. These measures by definition provide no direct information on such questions as average productivity of labor, capital or other inputs, and they also mask variations across projects within programs. Theoretically, if the total productivity measures were tied to appropriate managerial incentives below the central level, the central budgeting process could rely on these incentives to produce the most effective mix of resources and outputs at all lower levels.* By following these incentives and competing for rewards, managers would gradually tend to utilize the most efficient "mix" of resources. However, even if managers have an incentive to be efficient, the total factor productivity measures by themselves provide no clues as to the reasons why performance varies among the agencies involved in the program nor do they indicate which subprograms or projects are doing better than others. As overall measures, they are not much help in diagnosing the areas where efficiency can be improved.

While diagnostic measures of performance are inappropriate for evaluating relative efficiency, they can be useful for suggesting explanations of performance differences. Although such measures are not of immediate concern here, we discuss them briefly to establish their proper role of performance evaluation. Diagnostic measures include average labor productivity, and average productivity of other resource inputs, observed in physical or value terms over a given time period. Other diagnostic methods may involve the application of statistical and econometric tools to observations from the entire population of relevant data. (Econometrics is the application of statistics to economic problems.)

Multiple regression analysis, for example, is a technique which can be used to infer the marginal productivity of different resources. The technique is more sophisticated than simply measuring output per manhour, for example, since it would allow a user to estimate how total output changes as manhours are increased while other inputs remain unchanged. On the other hand, such relationships can only be estimated on an average basis for all offices or for one office over a fairly long time period since several observations are required to produce statistically acceptable estimates. Nevertheless, relationships estimated in this way can be used by local managers to judge whether the input mix under their control is as effective as the average in the sample.**

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*This notion is the substance of a proposal by C. C. Holt to incentivise the ES by means of a voucher system which would allow prices to be charged for ES services but would also stimulate competition by allowing clients to use vouchers at other agencies. Holt, "The Potential Impact of the Employment Service on the Economy," 1973, p. IV-1[illegible].

**Another application of these same statistical techniques is to use the residuals (the difference between the actual and estimated values of the dependent variable for each observation) as a tool for identifying agencies or offices whose cost or productive performance is significantly inconsistent with the observed average relationships between input and outputs. In theory, the residual term of a regression model represents the effects of random disturbances, errors in the measurement of dependent variables, omitted independent variables, and differences between the assumed form of the relationship and the "true" form. In a cross section analysis, observations whose true values lie significantly distant from the estimated values may be signaling the effect of any of these factors, and may fruitfully direct attention to these observations to investigate some of these missing factors.

Over-all efficiency measures can also be applied as diagnostic tools to specific activities or subprograms. This application requires careful attention to three costing problems. First, direct costs (professional staff time) must be estimated on the basis of some type of time allocation reporting. Second, costs of intermediate services must be determined and allocated on the basis of service flows. Finally, overhead costs must be allocated on some basis that approximates services received.

2.0 PRIOR ASSESSMENT OF THE EMPLOYMENT SERVICE

Before attempting to model the productivity of the ES, we wished to obtain a basic over-all understanding of the economic dimensions and rates of the ES. The ES has been the subject of intermittent research projects for most of its existence. In the post war period, the ES has been analyzed by internal Manpower Administration staff, DOL task forces, the Office of Management and Budget, the Congress, and a host of public and private research contractors funded for the most part out of DOL contract research moneys. This diverse body of knowledge suggested itself as a starting point for familiarizing ourselves with the economic dimensions of the ES.* These sources were supplemented by site visits to local offices in six states. Since our purpose was to develop a sufficient understanding to begin modeling the productivity of the ES, neither the literature review nor the site visits were intended to be extensive. This chapter summarizes the understanding afforded by these sources and discussed some of the more important ones. Since no survey of research or literature on the economics of the Employment Service was available to us at the outset of the study, it was not entirely clear what such a survey would produce. The literature was frequently surprising for its omissions. One surprise was that until 1974 there was no regular or systematic effort to evaluate the ES performance on a national level. Systematic evaluation of ES labor exchange activities began with the development, actually initiated by California and later taken up by one of the regional offices, of a formula to measure the productivity in terms of placements. Another surprising omission was the lack of analysis of the ES as an economic entity in DOL-funded contract research projects until 1973. In that year,Charles Holt produced under contract to DOL a preliminary conceptual discussion of the economic role of the ES. This timing is even more surprising in light of the fact that sketchy but truly innovative analysis of ES productivity had been undertaken by OMB as early as 1966 by Basil Moore. Only in this study, in fact, was the ES viewed as an organization producing outputs with economic value against which costs could be measured and returns or productivity computed. In several other quite recent DOL-funded studies, a common misconception of the relationship of the ES to the rest of the economy appeared. These studies argued that ES managers should be insulated from economic forces beyond their control in budget allocations made on the basis of placement performance. Since economic forces external to the ES will be among the major determinants of the social value of ES outputs, a precisely opposite position would seem more logical to us. It was also surprising that no attempt had been made to apply the growing economic literature on job search to the ES**. In much of the literature about the Employment Service, the objective of labor exchange activity is still stated as reducing unemployment, whereas the contribution of the jobsearch literature is in pointing out the investment aspect of unemployment from the standpoint of the individual. Few studies (notably Moore, 1966, and Katz, 1975-6) emphasized the intermediate role of placements to enhancing the real income of individuals.

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*Appendix A contains all references by topic and summaries of selected references.

**Simultaneous with this effort, a comprehensive conceptual analysis of the ES was undertaken by Donald E. Frey. Frey's report (1976) stresses both the output and transfer effects of the ES, including the importance of jobsearch theory and is, in our judgment, the most thorough conceptual discussion of the net social impact of the ES available.

In general, the available literature provided thorough qualitative discriptions of ES outputs, intermediate output and service flows of the production process, but little quantitative analysis of these topics. Some highly tentative empirical analyses of specific dimensions of output were available and proved helpful in later efforts to illustrate labor exchange output values, but most evidence of this sort was fragmentary. Analyses described in Chapters 4, 5 and 6 were, in fact, performed using original ES transaction data supplemented by parametric estimates and other limited evidence obtained from the literature. The literature consistently supported a distinction among three ES final outcomes: labor exchange, enforcement, and labor market information. Activities leading to labor exchange outcomes were described with sufficient consistency and detail to provide a good conceptual picture of the flow of work, although no quantiative evidence was available.

2.1 Information Sources

References were obtained primarily from three sources. The most important was a core of relevant studies including several unpublished reports and internal ES working papers provided to us by the Project Officer. Second, some studies were identifies from the Manpower Administration publication Manpower Research and Development Projects, 1974 Edition. Third, an early draft of a literature analysis by Camil Associates, Inc. suggested some relevant sources. Some additional references on related issues, such as the economic theory of jobsearch behavior and unemployment, were obtained from a general library search. Finally, first hand information on ES practices and procedures was obtained from site visits to Washington, Idaho, California, Washington D.C., Virginia and Missouri ES offices. The primary purpose of the visits was to observe first hand the relative importance of various nodes in the applicant flow process. An additional objective was to observe the impact of variations in fund mix and to observe the different job applicant matching procedures being used in local offices. In general, the site visits added depth to information already obtained from the literature.*

Our survey concentrated on three principal topics: outputs and economic benefits; inputs and the production process; and productivity. Under the heading of outputs were included the topics of output identification, output quality dimensions, output distributional characteristics, and output values, benefits and weighting schemes, both conceptual and operational. The inputs category included topics of input identification, input prices or other valuations, input substitutions, the flow of intermediate services, and the production process. The productivity category was subdivided into conceptual analysis and empirical analysis. For all topics we were also interested in data related to both ES operations, inputs and outputs and more general aspects of labor force and labor market.

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*The site visit report is found in Appendix B.

2.2 Outputs of the Employment Service and Economic Benefits

Outputs and Objectives of the Employment Service

A key theme in the literature dealing directly with the U.S. Employment Service is the proliferation of objectives that have been created for the ES by both Congressional and Executive initiatives. Objectives have included a purely economic focus on improving the efficiency of the labor market by reducing frictional and structural unemployment, policing welfare recipients, effecting a redistribution of jobs towards minorities, veterans and disadvantaged workers, and enforcing various hiring and employment practice laws. Current objectives of the ES implicit in existing law and executive policy are described as: (1) labor exchange, primarily through direct placement; (2) preferential treatment of specified target groups, such as veterans and minorities; (3) work test administration for unemployment insurance and other income maintenance programs; (4) community benefits; (5) enforcement, such as the inspection of farmworker houring; and (6) benefits to employers, primarily in the form of reducing their costs of screening and recruiting employees. Each of these objectives affects the nature of ES outputs and, since shifts in the national political climate lead to changes in emphasis on these objectives, the outputs themselves have changed over time.

Having numerous potentially conflicting objectives makes the process of output identification difficult. The difficulty is amply recognized in Aller, et al (1975), Foder (1971), and Siebert (1973). These authors reviewed the historical shifts in stated objectives of the ES and concluded that conflicts among multiple objectives have led to problems both in defining and delivering outputs. The theme is not a new one and appears first in a report by R. S. Thomas (1958). Thomas noted an ever increasing number of ES objectives and associated outputs generates considerable difficulty for the ES, both in service delivery and in effectiveness measurement.

A study by Shelley and Company (1975) attempted a more precise definition of labor exchange outputs. This study perceived the principal objectives of the ES to be a combination of services to job seekers and to employers. Thus, in their view, output must be measured both in terms of placements in proportion to unemployment and job openings filled in proportion to employment. Shelley concluded that the first measure is the best available for determining the impact of ES on job seekers, while the latter measure indicates both the ability of the ES to obtain job openings and to fill them.

From an economic point of view, somewhat more sophisticated analyses of the ES objectives and outputs are to be found in the studies by Moore (1966) and Siebert (1973). Moore argues that the ultimate objective of the Employment Service is to "reduce human costs of producing any given level of real national income....by improving the efficiency of labor markets" (p. 21). The principal indicators of the ES output are then measured in terms of two kinds of placements. These are direct ES placements and indirect placements. Indirect placements occur when individuals served but not placed by ES later obtain jobs which can in some part be credited to the service received, such as labor market information and analysis, counseling, testing and training referral.

Benefits, Output Values and Weighting Schemes

In general, we found that the only output to which weights were attached either conceptually or operationally, was the labor exchange output, placement. However, there was surprisingly little in the literature relevant to the subject of output values.*

The one operational weighting scheme available is the Balanced Placement Formula for 1976.** In effect, this formula looks at a substantial number of dimensions of the placement process and assigns to each of them a percentage weight, with the weights adding to 100. The actual weights employed are shown in Table 2.1. As can be seen, the weights are divided into quantiative and qualitative factors. What is not clear is the conceptual basis for determining this particular weighting structure. It is difficult to see the logic of weighting outputs and qualitative dimensions in additative (separate) form rather than in multiplicative form, for example.

2.3 Inputs and the Production Process

Summary

While the flow of ES labor exchange activities was covered quite extensively in the literature, very little discussion of inputs beyond innovations used in job matching was found. Nor was there any particular discussion of the types of labor employed by ES, although possibilities of certain types of labor/capital substitutions were discussed.

Direct information on inputs and resource costs are derivable from the various statistical reporting systems used by the Employment Service, such as ESARS and POSARS.

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*The project report by Frey (see reference, p.10) represents a major improvement on the conceptual level.

**A revised version, the Resource Allocation Formula (RAF), was prepared for FY 1977.

TABLE 2.1

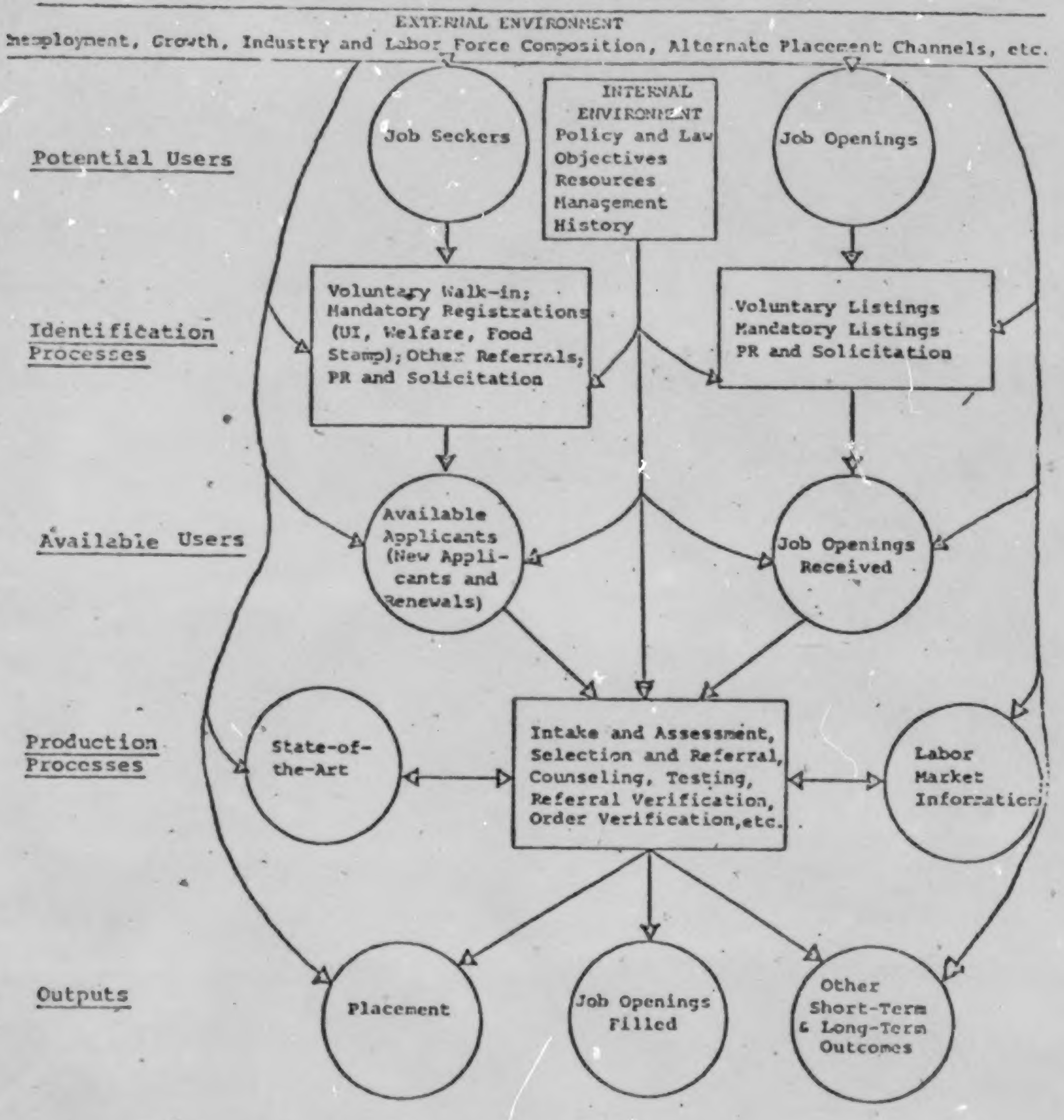
INITIAL BUDGET WEIGHTS

(Source: BPF for FY1976)

QUANTITATIVE FACTORS			60%
A. Productivity (Placement Performance per Manyear Worked)		30%	
1. Number of Individuals Placed per Manyear Worked		20%	
2. Number of Placement Transactions per Manyear		10%	
B. Effectiveness in Placing Applicants		15%	
1. Applicants as Percent of Unemployed		7%	
2. Individuals Placed as Percent of Applicants		8%	
C. Effectiveness in Filling Jobs		15%	
1. Non-Agricultural Jobs		11%	
a. Penetration of Employment Market	5%		
b. Effectiveness in Filling Job Openings	6%		
2. Agricultural Seasonal Jobs		4%	
QUALITATIVE FACTORS			40%
A. Types of Individuals Placed		25%	
1. Success in Placing Special Target Groups: veterans, minorities, poor, UI, claimants, migrants, women, handicapped, youth, older workers		20%	
2. Success in Placing Counseled Applicants		5%	
a. Counselees as Proportion of Applicants	2%		
b. Counselees Placed as Proportion of Counselees	3%		
B. Types of Jobs Filled		15%	
1. Duration		5%	
2. Wages		5%	
3. Occupational Level		5%	

FIGURE 2.1

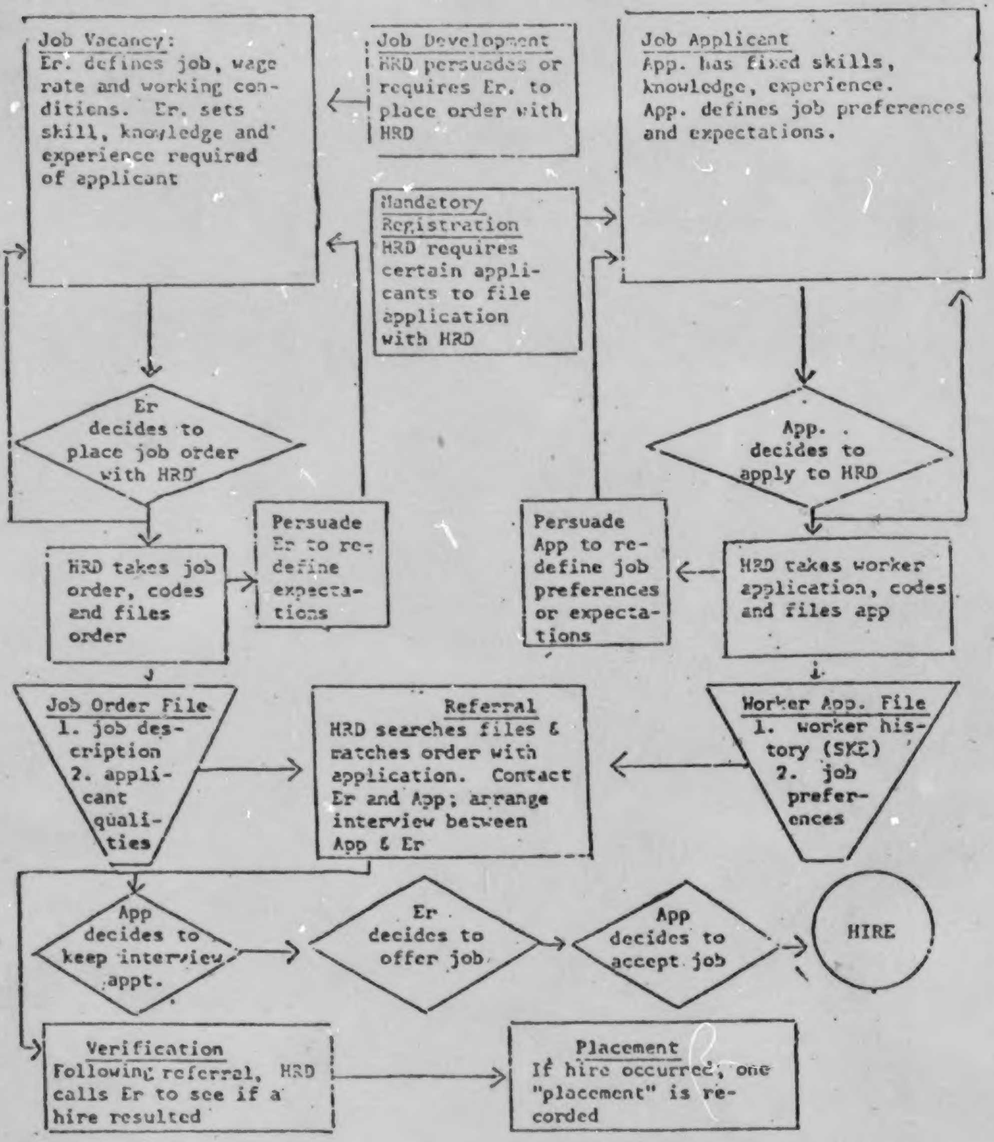
Block Diagram
of
Employment Service Labor Exchange Functions


EXTERNAL ENVIRONMENT
Unemployment, Growth, Industry and Labor Force Composition, Alternate Placement Channels, etc.
Potential Users
Job Seekers
INTERNAL ENVIRONMENT
Policy and Law
Objectives
Resources
Management
History
Job Openings
Identification Processes
Voluntary Walk-in; Mandatory Registrations (UI, Welfare, Food Stamp); Other Referrals; PR and Solicitation
Voluntary Listings
Mandatory Listings
PR and Solicitation
Available Users
Available Applicants (New Applicants and Renewals)
Job Openings Received
Production Processes
State-of-the-Art
Intake and Assessment, Selection and Referral, Counseling, Testing, Referral Verification, Order Verification, etc.
Labor Market Information
Outputs
Placement
Job Openings Filled
Other Short-Term & Long-Term Outcomes

Source: Shelley & Co., (1975), Vol. 3, p.7

FIGURE 2.2

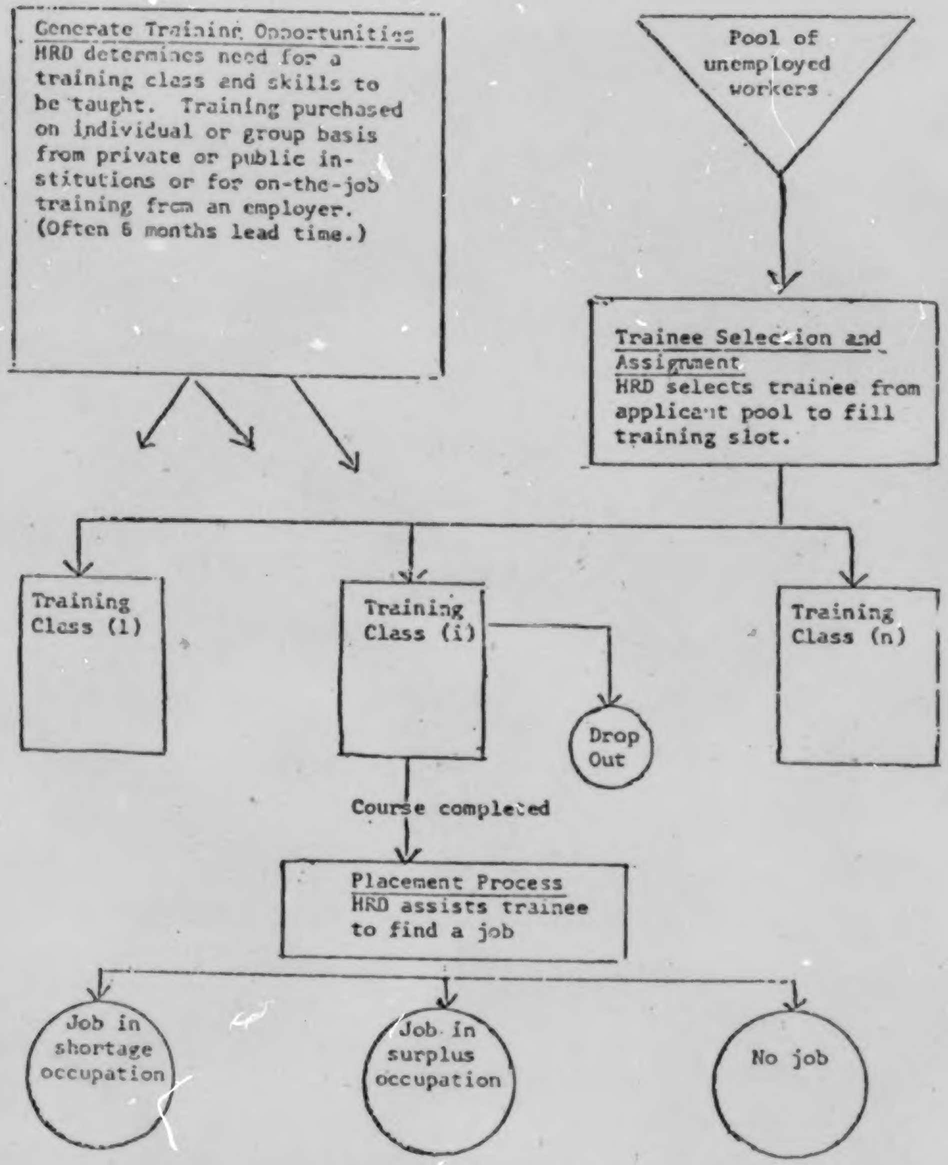
THE PLACEMENT PROCESS


Job Vacancy:
Er. defines job, wage rate and working conditions. Er. sets skill, knowledge and experience required of applicant
Job Development
HRD persuades or requires Er. to place order with HRD
Job Applicant
App. has fixed skills, knowledge, experience. App. defines job preferences and expectations.
Mandatory Registration
HRD requires certain applicants to file application with HRD
Er decides to place job order with HRD
App. decides to apply to HRD
HRD takes job order, codes and files order
Persuade Er to redefine expectations
Persuade App to redefine job preferences or expectations
HRD takes worker application, codes and files app
Job Order File
1. job description
2. applicant qualities
Referral
HRD searches files & matches order with application. Contact Er and App; arrange interview between App & Er
Worker App. File
1. worker history (SKE)
2. job preferences
App decides to keep interview appt.
Er decides to offer job
App decides to accept job
HIRE
Verification
Following referral, HRD calls Er to see if a hire resulted
Placement
If hire occurred, one "placement" is recorded

Source: Siebert (1973), p. 35

FIGURE 2.3

THE TRAINING PROCESS


Generate Training Opportunities
HRD determines need for a training class and skills to be taught. Training purchased on individual or group basis from private or public institutions or for on-the-job training from an employer. (Often 6 months lead time.)
Pool of unemployed workers
Trainee Selection and Assignment
HRD selects trainee from applicant pool to fill training slot.
Training Class (1)
Training Class (i)
Training Class (n)
Drop Out
Course completed
Placement Process
HRD assists trainee to find a job
Job in shortage occupation
Job in surplus occupation
No job

Source: Siebert (1973), p. 41

The Flow of Work and Intermediate Products

The consistent theory of the production process for the ES is lacking in the literature. This point is reinforced by the observation made by Aller, et al (1975) that there is considerable uncertainty as to the purpose served by counseling, and that most ES administrators are not confident of the impact that counseling might have on the placement process. According to this report, it appeared that most administrators view counseling as a final output with doubtful utility and therefore tend to restrict budget allocations to that function. As a consequence of these observations, the Aller group recommended that further study be made of the role of counseling in the ES production process since it now consumes a substantial portion of the budget. Subsequent studies, particularly one now under way at Stanford Research Institute (Benus, 1975) may generate evidence on the extent to which counseling is intermediate to direct or indirect placement outcomes.

On the other hand, the flow of activities and services is covered extensively. Other studies which recognized explicitly the intermediateness of some ES services are those by Siebert (1973) and Shelley and Company (1975). Siebert viewed the final output of the Employment Service in terms of placements. He also discussed at some length the production process whereby these outputs are produced. The first stage of the process is the marketing of ES services to induce applicants and employers to use them. The second stage is the actual taking of an application by the worker and job order by the employer, while the third stage of the process is referral. In this view, all of the activity of ES employees, such as job development, interviewing, counseling, referral, etc., are intermediate to the production of direct or indirect placements. Siebert also deals with training, the principal device for overcoming structural unemployment, in much the same way.

The Shelley study took a very similar approach but pursued it more thoroughly. It identified thirteen placement and support activities related to placement and nine non-placement activities. The nine placement and support activities include CETA, EFS study, clerical, sick, job corps/food stamp/UI, meeting/training, supervision/management, vacation/annual leave, and personal/coffee break, etc. The Shelly group describes the allocation of time among these activities in two local offices based on actual observation. These data reveal that while the allocation between placement and non-placement activities is quite similar between the two offices, the distribution of activities within the placement category tends to vary considerably. The flow diagrams created by these studies are reproduced as Figures 2.1 (Shelley) and 2.2 and 2.3 (Siebert). As seen in the diagrams, both authors conceive the flow of activities very similarly. The activities included are new applications, subsequent applicant interviews, counseling, testing enrollment in training, orientation, job development, job referrals, job orders, employer visits, and follow-up.

Employer services are discussed as an intermediate output in studies by Giblin and Levine (1972) and in a study by McRae (1973). Both studies concluded that employer services have been too much neglected in the immediate past and that the productivity of the Employment Service has suffered. Employers are ultimately the source of ES job orders and, unless considerable attention is paid to determining employer needs and to generating employer confidence that ES can satisfy those needs, employers will tend to turn to other sources of labor supply and reduce their orders to ES. The McRae study, which took the form of a demonstration project, found that closer attention to employer needs and complaints about ES led to improvement in both the image of ES among employers and in their use of ES. These results, in turn, tended to generate an increase in ES local office morale.

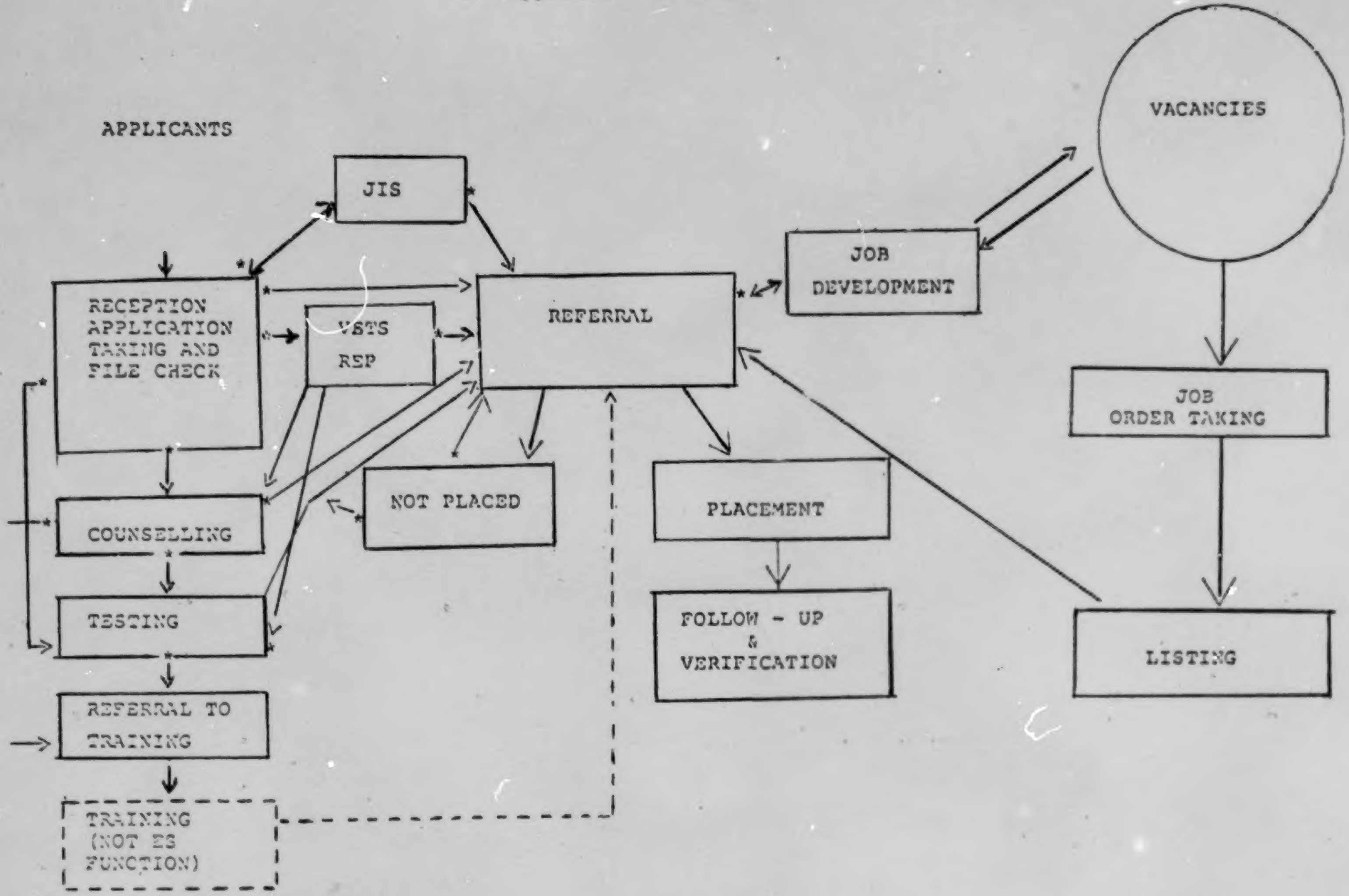
Analysis of another intermediate output is found in the study of the local job bank program by George Huber, et al (1972). In this study it was found that job banks generally were not achieving their stated goal of achieving more efficient matching, improving manpower services to the disadvantages, and increasing ES placement results. The authors attributed this failure primarily to a lack of understanding of the intermediate product role of the job banks. They emphasized that job banks were not an end in themselves but had to be fully integrated into the placement process to be successful.

The concepts of output flows obtained from the literature were validate in site visits. Figure 2.4 summarizes the concepts we had formulated on the basis of the literature. Since the purpose of the site visits was to test this prior view of ES activities against what we actually observed, we fully expected that the scheme depicted in Figure 2.4 would be modified. We found that these concepts and relationships described in the literature were generally valid. On the other hand, the site visits made it possible to refine and specify in more detail the nature of each of the activities depicted in Figure 2.4. Also, we were able to obtain some idea of alternative production techniques on the basis of variations across sites in the way activities are carried out. Some activities, for example the basic intake and application process, were virtually the same in every site visited. Others, such as the extent and nature of counseling, were highly variable.

Perhaps the single most important finding from the point of view to the present project was that, in one way or another, all the activities of the ES are directed toward enhancing the effectiveness of individual job-search. Wherever feasible, given an individual's skill, available training opportunities and job market conditions, this objective translates into placement. Otherwise, there appears to be a substantial role in educating people to the realities of the job market, with the result that unproductive search or unrealistic search objectives are discouraged. Our overall impression is that the ES is a "people oriented" service and while employer services may be very vigorously pursued throughout the system, they are pursued in order to develop the opportunities for placing people in jobs.

FIGURE 2.4

ES ACTIVITIES
(Apparent Flow Chart)


APPLICANTS
JIS
RECEPTION APPLICATION TAKING AND FILE CHECK
VETS REP
REFERRAL
JOB DEVELOPMENT
VACANCIES
JOB ORDER TAKING
NOT PLACED
PLACEMENT
FOLLOW - UP & VERIFICATION
LISTING
COUNSELLING
TESTING
REFERRAL TO TRAINING
TRAINING (NOT ES FUNCTION)

* ——>: Indicates one of several options to be taken.

At the same time, measurement of even the simple placement outcome is not very reliable, at least in part due to the DOL restrictions by policy on what may be credited to an office as placement. First, placement credit is not recorded when it results from a training program if the placement does not occur through an ES job order. Second, the same rule prohibits counting placements resulting from informal referrals of highly qualified job-ready applicants on the basis of ES staff contacts with employers rather than formal job orders. Also, no attempt is made to track the outcomes of self-service usage of ES facilities. Finally, distinction such as agricultural and non-agricultural placements are no longer as significant as in the past, given the changing nature of agricultural labor markets. Since the highly seasonal "day haul" labor employed by large agricultural operations is now handled primarily by farm labor contractors, the type of placement most commonly made by ES at these establishments may now be more similar to an industrial placement, often involving skilled labor, particularly operatives and mechanics.

Input Prices or Other Valuations

Discussion of this topic is virtually non-existent in the literature. Shelley and Company are apparently in the process of collecting data on unit costs per activity identified above. Also, Moore (1966) did attempt to refine input costs although his data are now outdated.

Input Substitutions

Again, there is relatively little discussion in the literature. Preliminary research by Shelley and Company, however, indicates that variation in the level of different activities can lead to substantially differing output results among ES offices. The Shelley effort is apparently in the process of examining this question in their continuing study of input standards.

Another potentially fruitful area of research is capital/labor substitution, especially through the use of computer technology. Computer applications include job banks, labor market information systems, matching and management information systems. One study of the potential for the use of computers is found in the Report of the Special Review Panel on Computerization of the ES (1974). The Panel reported that experimental computerization of job matching tended to increase placement productivity and lower costs, but recommended further investigation to improve the system and more clearly delineate its effects. Some of the problems associated with using computers for matching are outlined in a brief paper by Dickman (1974), although he says little about the extent to which computer matching acts as a labor substitute. Also in this area, a report by Ultrasystems, Inc. (1975) on the effect of computerized job banks on ES performance in Los Angeles concluded that performance was improved by computer matching, although no calculation was made of the value of this improvement relative to its cost. The report by Cohen (1975) on a project in the Denver Youth Opportunity Center offered more quantitative evidence on this subject. In that project, job orders and other ES records were made available on-line by remote terminal to counselors and placement personnel and were updated daily. It was found that this system was a powerful tool for improving the quality of both counseling and placements in the Denver area. The majority of counselors and placement personnel found the system relatively easy to learn and convenient to use and were generally pleased with the impact that this computer system had on their work. There was not, however, any extensive analysis of the precise gain achieved by the use of the computer system, particularly with respect to its cost.

2.4 Productivity, Evaluation and Budgeting

The Employment Service has been evaluated in terms of physical productivity and only once in terms of social value generated per dollar of aggregate input cost. In our assessment, the literature dealing directly with ES activities tends to confuse the analytical concepts of efficiency and physical productivity, especially when the latter is a single, partial measure. This confusion extends to the Balanced Placement Formula itself, which appears to have a rather ad hoc construction. Also, in the literature there is limited understanding of the interdependence between economic factors and benefits associated with the ES treatments. There is, in fact, a general failure to take potential benefits into account in constructing performance standards.

The Present Budget and Evaluation Mechanism

In FY 1974 and FY 1975, procedures for evaluating local ES office performance and for allocating ES Title III funds among the respective state agencies utilized the Balanced Placement Formula mechanism. The BPF was replaced by a revised version, the RAF for FY 1977. The RAF, like the earlier BPF, is primarily an ex-post reward system for past performance of applicants from policy-determined preferential groups (i.e., veterans, minorities, migrants, etc.). But both as a funding mechanism and as a source of data for budget planning, the Resource Allocation Formula has shortcomings. It appears to us that the Balanced Placement Formula produced counterproductive incentives for state managers, inefficient funding patterns across states, ignored some of the most socially productive ES activities and permitted no meaningful evaluation of the system on a value generated per dollar of cost basis. The RAF does not appear to have improved on these shortcomings substantially.

There are several major problems with the funding mechanism as it is presently structured. First, it focuses entirely on the labor exchange dimensions of the system and ignores social values generated by outputs of enforcement activities of the ES. This feature of the RAF means that there is no incentive for operational level managers to consider the enforcement activities as worthwhile. In fact, one finding of the Shelley study is that the Balanced Placement Formula performance is negatively correlated with enforcement (work test performance). We would expect that such an incentive leads to perfunctory performance of these activities and low enforcement productivity. Our empirical illustrations, discussed in Chapter 6, suggest that the enforcement outputs of the ES system may be doubly productive when compared with labor exchange activities in the sense that placement of a UI, welfare or food stamp claimant produces both the ordinary placement value plus additional savings in claims against social transfer accounts. The work test activity which results in claim denials also produces savings in the extent of the invalid claims saved. As discussed in Chapter 6, using our model of ES productivity with numbers which are likely to overestimate the costs of enforcement activities, the rate of return for these activities in terms of savings of transfer costs is very high. Hence, the present funding mechanism is a misleading measure of productivity across states and may discourage managers of the system from pursuing a socially valuable activity.

Another major problem is related to the structure of the BPF itself. States are evaluated in terms of the number of placements made, without regard to quality dimensions of the placement. Although a separate evaluation is conducted for placement quality, quality dimensions are not used as factors in evaluating placements for target groups. This structure treats all placements, without regard to duration, wage or other dimensions of value added, as being equal in value. Thus, even for labor exchange activities alone, the BPF is questionable as an economic productivity tool. It thus tends to produce misleading operational incentives, since it encourages maximization of placements which are least cost in an absolute sense instead of those which produce the greatest social value per dollar of investment. Wages in about two-thirds of all placements in both 1974 and 1975, for example, were under $2.50 per hour. And while most placements are expected to last more than four days, there is no follow-up procedures to ensure that they do. To the contrary, the evidence is that of placements expected to last 150 days or more, less than 35% actually do. (See Kuptzin, "Estimate of Dollar Value of ES Placements in FY 1974....")

There has been some attempt to control for placement quality by distinguishing between agricultural and non-agricultural placements, possibly on the grounds that low wage, short duration placements tend to be concentrated in agricultural areas. However, our site visits suggest that this distinction may also be potentially pernicious since the growth of the farm labor contract industry has almost eliminated mass placements by ES in most areas, while the sophistication of modern agribusiness has led to requirements for larger numbers of skilled workers and operatives in farm work.

A fourth problem is that the BPF meshes the planning and budgeting aspects of fiscal management with evaluation and reward aspects. Operationally, these two determinations may both occur at the same time but their functions are really quite different. Planning and budgeting are *ex ante* activities aimed at developing a realistic plan of service based on expected returns, creating the desired incentives, and allocating resources accordingly. Evaluation is an *ex post* assessment of past performance following through on promised rewards or penalties. The BPF is used to allocate budgets on the basis of past performance rather than on future needs. Clearly, an office which has performed well in the past should be rewarded. But the objective of rewarding sound management should not be confused with the objective of budgeting service levels appropriate for expected workloads and anticipated returns.

There are still other problems with the BPF as a productivity measure. The Shelley report points out that there is an "effective weighting" problem which depends on the variability of the individual criteria included in the index; the same source mentions the problem of double counting (Shelley, 1975, Volume 2). In our view, the double counting problem is symptomatic of problems in the derivation of the BPF. As far as we can tell, the BPF was derived in the absence of a conceptual model of the benefits associated with the labor exchange function of ES.

A further major limitation is that while the mechanism produces an index of relative efficiency, it does not permit evaluation of overall investments in even the labor exchange activities of ES as opposed to other social alternatives.

Finally, the attempt to accommodate numerous "priority groups" has the effect of nullifying any priority incentive for most groups except veterans.

Other Evaluations of the Employment Service

Only one study (Moore, 1966) attempted to attack productivity in a traditional economic sense: output value generated for the input value of resources expended. The study was relatively limited in its scope, concentrating on a broad notion of average value of placements per unit cost. Moore also attempted to develop marginal productivity concepts for use in determining resource allocation among different outputs and ES activities but did not attempt their measurement.

Moore points out that ES outputs generated both public and private benefits. In a practical sense, even the private value of ES outputs is difficult to measure because, like many publicly financed enterprises, there is no fee for the service rendered. Although the service is not so unique that it has no counterpart in the private sector, it is different enough so that using market sector prices is subject to significant pitfalls.*

Except for the Moore and Siebert papers,** no conceptual model of the ES is advanced in the body of literature regarding the ES. One example of the need for such a conceptual model is the confusion over the economic role of unemployment. Even in the Moore and Siebert studies, in fact, the ES objective of improving efficiency in the labor market is interpreted as reducing the duration of unemployment (Moore, pages 2 and 32; Siebert, page 24; see also Mogull). As we discuss in Chapter 4 and

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*Two examples of this approach are Moore (1966) and Kuptzin (1975).

**And the recent Frey Report (1976).

Appendix C, unemployment can be viewed as an investment. The objective of improving the efficiency of the labor market thus may be more generally interpreted as improving the efficiency of jobsearch investment activities. This improvement can be accomplished either by reducing the cost of search (reducing the extent and duration of unemployment) or by making jobsearch more productive (broadening the economic opportunities available to the job seeker) or some combination of these two aspects. Viewed in this way, it does not necessarily follow that a "good" ES office is one which solely reduces the duration of unemployment.

The absence of a sound conceptual model is also apparent in current efforts to study the impact of "external factors" on placement productivity. From basic economic theory we expect that, other things being equal, the value of a placement both on average and at the margin will decline with an increasing volume of placements in a given time period because of diminishing returns. We also know that the value may decline for any given level of placements in a time period if, for example, technical change makes substitution for placement services through some other alternative relatively cheaper. The same principle applies if a qualitative change occurs in the economy or environment, such as a change in societal preferences, shifting trade patterns, or a changed tax or legal environment affect the net benefits associated with placement.

The point is that many external factors can affect the value of any level of placement activity. Therefore, analysis of such external factors should proceed from their impact on placement values for drawing resource allocation implications. However, analysis of such factors in the literature that we have observed consists of exploratory empirical work (using stepwise regressions and simple correlations) to uncover purely statistical relationships between external factors and simple physical productivity measures; i.e., placements per unit of ES labor input. (See Aller, 1975; Shelley, 1975)

First, this type of approach, when conducted in the absence of a model of conceptual relationships, is ad hoc and offers no basis for distinguishing spurious correlations from those which are consistent with economic theory. Furthermore, the authors of these studies jump from the observation that a certain percentage of the variance in productivity can be explained by external factors to the conclusion that a corresponding percentage of differences in productivity should be ignored in assessing resource allocation decisions at the state and local level. This conclusion is clearly mischievous. Given that management should demonstrate a (social) return per dollar invested in ES at least as great as in other alternatives, productivity analysis should be directed precisely at the impact of such external factors on the commensurate value of placements. If the effect of external factors is to reduce the incremental value of placements in a given area, then the implication for effective resource management is that correspondingly less should be invested in that area, not that the area should be "held safe" against resource reductions. Finally, in several studies which have taken the latter approach, the error is compounded by interpreting the residual from multiple regression equations as a measure of relative effectiveness.*

The confusion in this instance probably stems from the fact that it is desirable to reward managers for effective decisions and that they should not be penalized for the factors beyond their control. This rational is explicit in the Shelley study. "It was assumed that state ES agencies should not be penalized for poor performance due to factors beyond their control" (Shelley, Vol. 2, p. 32). However, one objective of performance standards should be to reward managers for appropriate responses to those factors beyond their control. In essence, insulating them from the effect of such factors may encourage them to make inappropriate responses to those factors and reduce the efficiency of the ES system as a whole.

Given that an index of benefits may in practice be derived from a combination of external factors and qualitative variables, such an index is likely to show that the value of placements does increase at the same time that they become more difficult to achieve. The effect in such cases then may in fact be to "hold safe" resource allocations made on the basis of a logical and consistent expection of returns which can be justified from the point of view of efficiency.

Physical Productivity Studies

The remaining studies to address the issue of productivity concentrated primarily on the ratio of a quantified output to the quantity of inputs needed to produce it. The typical measure was the ratio of direct placements to employee manyears. The most significant of these studies is that by Shelley and Company (1975). Shelley specified three quantitative measures of performance: (1) individuals placed per manyear worked; (2) individuals placed as a percent of the number of unemployed individuals; and (3) job openings filled as a percent of non-agricultural wage and salary employment. These three measures were selected because they were likely to be least sensitive to manipulation by state or local policy, and because they represented key aspects of the Employment Services' labor exchange function. No attempt was made to establish relative values for these three measures in order to formulate some aggregate measure of productivity. A key part of the analysis of the Shelley team was that these performance measures are not solely affected by the management of state and local ES offices, but are instead subject to substantial influence from various "environmental factors." They devote a substantial proportion of their study effort to measuring the impact of these environmental factors on performance, finding that about two-thirds of the variation in productivity across states is due to these environmental factors. From this analysis they conclude that some care must be taken not to penalize the budgets of lower productivity states when the lower productivity is due to circumstances beyond their control.

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*See Englander, page 2; "Statistical analysis utilizing a regression model may also be useful in determining which offices are performing well or poorly relative to what would be expected based on external labor market conditions and the allocation of man years....the residual....is likely to be largely a measure of the effectiveness of the management of the office and the caliber of personnel; i.e., the efficiency of the local office." The same error appears in Aller, et al (1974) page 2, although it is less overt.

Another study which examined productivity in the sense of quantitative performance was that by Aller, et al (1974). Their approach was very similar to that taken by Shelley and Company in the sense that they examined the effect of external variables on the performance of different State Employment Service agencies as measured by non-agricultural placement per ES manyear. Using regression analysis, they employed in their equations a number of labor market variables to explain the productivity ratios across states in fiscal year 1973. They found that of eight labor market variables specified, three variables (number of new hires, proportion of the work force in low wage jobs and the unemployment rate) together accounted for 44 percent of the variation in productivity, more than any other combination of variables. Although the variables used were slightly different, these results were virtually identical to those of the Shelley study.

Performance Diagnosis

A more elaborate approach to evaluating labor exchange performance was taken by Siebert (1973). Siebert viewed the process as one involving several stages, each with its own quality dimensions which can be measured to give diagnostic information on system performance. The first stage is obtaining job orders. The quality dimensions appropriate here include the penetration ratio, the cancellation rate, the ratio of openings obtained to job development attempts, the employer return ratio (percent of employers who repeat their use of ES), the wages of jobs listed, the occupational characteristics of listings, the status of jobs listed, and client satisfaction (determined by surveys of employers). The second process considered by Siebert was job order and worker application taking. This step consisted of aiding employers and applicants to set their expectations in accord with current market conditions so that neither employers nor workers were attempting to achieve the unobtainable. Quality components associated with this stage include the ratio of wages paid to wages offered, the ratio of qualifications of new hires to employer qualifications, the improvement of job requirements (as specified by employers), and placements per counseling interview. The final stage of the placement process is referral. In this step Siebert suggested three specific measures: relevance, completeness, and timeliness. Referral relevance is determined by the percent of total applicants or orders retrieved from file search which meet minimum requirements. Completeness is defined in terms of the percent of applications or orders available in the files which are actually retrieved by file search. Timeliness is defined in terms of the length of the duration between the reception of an order or application and the making of a referral. Additional quality dimensions of referrals mentioned include the percent of applicants placed, those employed after six months, the ratio of wages six months later to starting wage, percent of time worked in the six months following placement, percent of employers who believe that ES accelerated their filling the job, and percent of applicants who believe that their jobsearch was reduced.

Siebert also examined quality dimensions associated with training, the output which he considers to be most effective with respect to structural unemloyment. The quality dimensions mentioned include the course dropout rate, the percentage of completing trainees placed, percentage of training related jobs in labor shortage occupations, percent of training slots filled, training course time and costs, trainee evaluation of the program, and the aggregate percent of trainees placed.

2.5 Gaps in the Assessment and Subsequent Focus

The literature review and site visits indicated that the original and still primary mission of the Employment Service is to serve as a labor exchange servicing worker groups not able or likely to benefit from services available from the private sector. A secondary function which has evolved, in part simply due to the fact that the Employment Service comprises one of the most extensive networks available for administering social programs, we have summarized as enforcement activities. These include administering the UI, food stamp, and other welfare work tests, as well as unavailability certification for immigration services, farm worker complaint processing and a variety of compliance verification functions for various federal contract or mandatory job opening listing requirements. A third function not unrelated to the first is to provide various types of labor market information to the public at large and to various state, local and federal agencies.

Our first appraisal of the Employment Service thus provided us with a fairly complete picture of what the ES produces, but with very limited understanding of the potential economic value of these outputs. Only in one study (by Moore, 1966) was there a thorough understanding of the relationship between the ES and the economy. In our view, a sound conceptual understanding of ES benefits is a prerequisite for developing measures of the social productivity of the Employment Service.

A prior task, of necessity given the large number of activities engaged in by the ES, was to obtain some quantitative information on the relative importance of these activities and on the flow of outputs in order to assign priorities in development of productivity measures.

Manyear distributions by function are available only at the state and regional office levels, making national distributions costly to obtain. However, data available from the Region X office provided an illustration of relative resource allocations to various functional activities. Cumulative totals of manyears by function for fiscal 1975 (available from Forms MA2-16 for Oregon, and from the ES 02 report printouts for the other three states in the region) indicate that about 75 percent of total manyears are spent in direct services related to the labor exchange functions, or 90 percent of the direct service activity codes 510-565. An additional four to five percent is spent on employer and community services related to the same functions and no more than five percent is spent on all labor market information activities. Since some of the information activities are conducted primarily for supporting labor exchange functions (occupational opportunities information, test development, and some of the labor area information) the residual labor market information is probably less than three percent of total ES manyears. Form MA2-16 does not indicate how many of the manyears reported under labor exchange direct services are actually related to enforcement activities; however, the total of immigration activities and community services (time distribution activity codes 553 and 554) are less than two percent of manyears in the region. Some indication of the amount of placement personnel which is involved in enforcement can be obtained by looking at the placement experience of claimants. In fiscal 1975 for Region X, of 203,591 placements, 25.8 thousand were placements of UI claimants and 23.6 thousand were placements for food stamp claimants. These placements are 24.3 percent of the total, which suggests that the enforcement activities related to the detection and prevention of invalid claims may account for around 16 to 20 percent of total ES manyears. However, some "displacement" offset effects must also be taken into account.

These data suggest that by far the most important activity of the ES is the labor exchange activity, while the work test type of enforcement activity is also important. The labor market information services over and above those which directly support the labor exchange and enforcement functions appear to be very small. Consequently, the two former activities became the focus of our subsequent efforts to define [illegible] develop output value measures for the Employment Service.

3.0 DIMENSIONS AND OUTCOMES OF EMPLOYMENT SERVICE LABOR EXCHANGE ACTIVITIES

The flow of work in the Employment Service is amply described in the literature, but no quantification of these flows is offered. While we know that some outputs are intermediate to the placement process, for example, we do not know the extent to which they should be considered final outputs themselves. A significant upward bias in productivity estimates can result if costs of intermediate outputs (which are partly responsible for and embodied in the ultimate final outputs) are left out of the calculation. For this reason, it is important to know the extent to which intermediate outputs such as job information services, counseling, employer and community services support ES placements.

All ES users may sooner or later find jobs, whether through a referral based on a match of individual applicants with ES job orders or otherwise. In either case, services provided by the ES are intermediate in the jobsearch process and may be important to enhancing the overall social productivity of search. In order to understand the relative importance of labor exchange services leading to placements of ES users by the Employment Service ("direct placements") and placements outside the Employment Service ("indirect placements"), data from three sources were examined: the State work sheets for the 1976 BPF computations,* the ESARS 2% sample for 1974, ** and some data made available by the Missouri Division of Employment Security. These data allow us to draw more informed inferences concerning the indirect placement aspect, and in particular, the potential relative importance of final services of the ES over and above verified placements. The data also allow us to generate an estimating procedure for taking account of indirect placement value in our illustrative estimations of ES total productivity.

The figures and tables below provide some perspective on applicant and resource flows based on an analysis of the data available. Although in several cases the data are sketchy, they do support a number of interesting conclusions concerning both resource and applicant flows.

- o The evidence suggests that about 60% of ES resources ultimately flow to outcomes with some demonstrable benefit for ES target populations. Some or all of the remaining 40% of resources may indeed enhance the incomes of ES beneficiaries, but there is no evidence available now that they do.

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*FY 1976 BPF worksheets contain data for FY 1974 and the first half of FY 1975.

**A 2% sample of individual transaction records from all but seven states. Data provided evidence on the flow of both applicants and resources through the E[illegible]nd led to the following conclusions concerning ES outputs and their costs.

- About 35% of applicants realize some form of income enhancement through ES, mostly through placement. About 65% simply flow through the system exposed at most to job information services receiving no further treatments.
- Indirect placement rates may be as high as 13.4% of verified placements on a national basis, and about 10% of ES resources may be attributable to the production of such non-verified outcomes.

3.1 Applicant Flows

It is useful to understand conceptually the flow of applicants through the ES, particularly since there are a number of points at which the paths diverge. Figure 3.1 is a diagram of applicant flows. This diagram is synthesized based on observations made during on-site visits and findings reported in other studies. We distinguish four major service nodes, four different placement outcomes, and two non-placement outcomes. The service nodes are intake (denoted by the ES professional staff time distribution subsystem activity code 511), counseling/testing (activity codes 512, 513, 514, and 565), referral (consisting of activity codes 510 - training - 531, 532, 533, 534 - all employment development codes - 551, 552, and 554 - employment community service activity codes), and manpower information (consisting of activity codes 561, 562, 563, and 564).

As indicated in Figure 3.1, applicants flow into the system through intake and are initially exposed to the job information service, whether by self-service or with the assistance of an intake person. After this, the individual may (1) leave the system, (2) be directed by the intake person to counseling/testing, or (3) if he is job ready, become referred. Individuals who are counseled and/or tested may end up: (1) leaving the system, or (2) being referred. Not all individuals processed by placement officers are referred to jobs or training, hence the arrow marked "not referred" on Figure 3.1.

Screening can result in (1) training, (2) jobs which are creditable under the present rules of the ES (creditable placement is one made by referral in response to a received job order), (3) unverified creditable placements (placements which are creditable but are overlooked in the verification or follow-up process), and (4) non-creditable jobs (referral without job order but income enhanced in some way by the referral process). Otherwise, individuals who are referred receive no known benefit. Individuals who are referred receive no known benefit. Individuals who are not referred consist of three groups: individuals who have left the system after exposure to the job information service, individuals who have left the system after counseling, and individuals who have left the system after seeing a placement officer but have not been referred. Conceptually at least, these individuals may also end up in one of two positions: with enhanced income or no benefit realized. For example, these individuals may have been saved the cost of unjustified further search.

Using data from the FY 1976 BPF worksheets (data are for 1974 and 1975), the ESARS 2% sample (1974) and some data on indirect placements from Missouri, we have constructed a numerical illustration in Figure 3.2 showing what the evidence suggests are the actual flows of applicants through the service nodes and outcomes shown in Figure 3.1.

In fiscal 1974 there were approximately 11.5 million applicants nationwide.* Nationally, 5.5% of these or approximately 630,000 received counseling. About 153,000 individuals who had been counseled were also placed so we know that at least as many counselees were also referred. The balance of the counselees, about 470,000, received no further service. These numbers are derived from the fiscal year 1974 data reported to ES on fiscal year 1976 BPF worksheets, and they are shown in the Intake, Counseling and Referral blocks of Figure 3.2.

Placement estimates were obtained from a number of sources. Individuals enrolled in training were not available from population data on the BPF worksheets, but the ESARS 2% sample shows 1.1% of individuals enrolled in training. Applied to the national total, the estimate is 120,000. The BPF data do show placements in verified accredited jobs and the reported total is 26.6%, or 3 million individuals. We used the verified placement total to work backwards to referrals and also as a base for estimating indirect placements.

Concerning referrals, the 1974 ESARS 2% sample indicates a ratio of job referrals to placements of 1.89. Applying this percentage to the total placement figure results in an estimate of about 5.8 million referrals, or about 50.4% of applicants. Given the number of counselee referrals, the balance of 49.1% applicants referred, or 5.6 million individuals, is our estimate of the number of job-ready applicants referred. The subsample indicates that about 1.8% of applicants were referred to training, yielding an estimate of 207,000 individuals on a national basis. The same sources indicate that about 127,000 individuals were enrolled in training, or 1.1% of the total. These data complete the job and training referral and two of the placement boxes in Figure 3.2. We can now estimate the number of applicants receiving no service beyond exposure to the job information service by subtracting the number counseled and referred from the total. This yields about 5 million individuals (43.7%) as shown on the top line of the "No Further Service" box in Figure 3.2.

We have accounted for individuals placed in verified training and employment positions but not for individuals obtaining indirect placements. We have been able to obtain some partial evidence from Missouri which offers us two approaches to estimating indirect placements. Both approaches are shown in Table 3.1. The ESARS 2% sample indicates that 39% of the applicants were referred in Missouri in 1974. Applying this percentage to the FY 1974 Missouri applicant base would mean that about 120,000 individuals were referred in Missouri in 1974. BPF worksheets show about 91,000 individuals placed in jobs, leaving about 28,000

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*Alaska excluded.

Figure 3.1

APPLICANT FLOWS

APPLICANTS

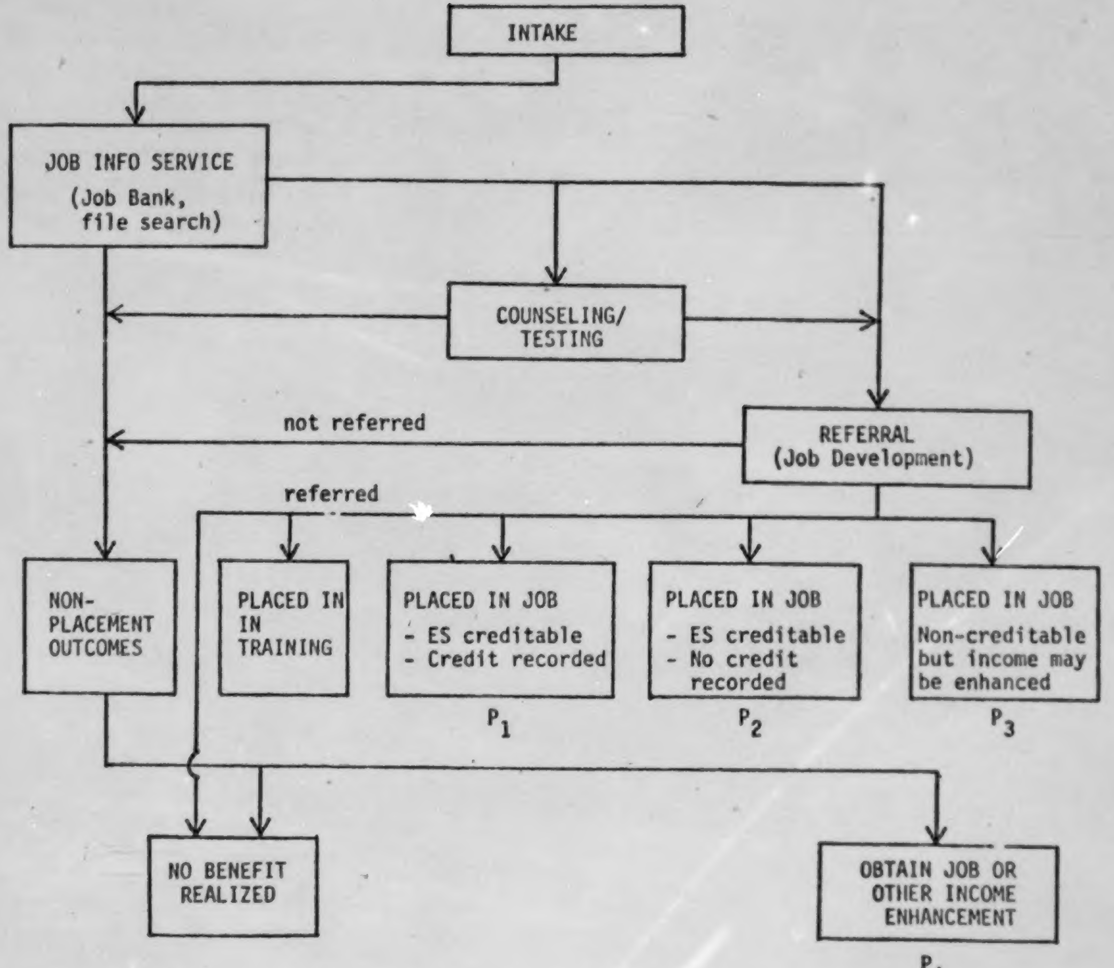
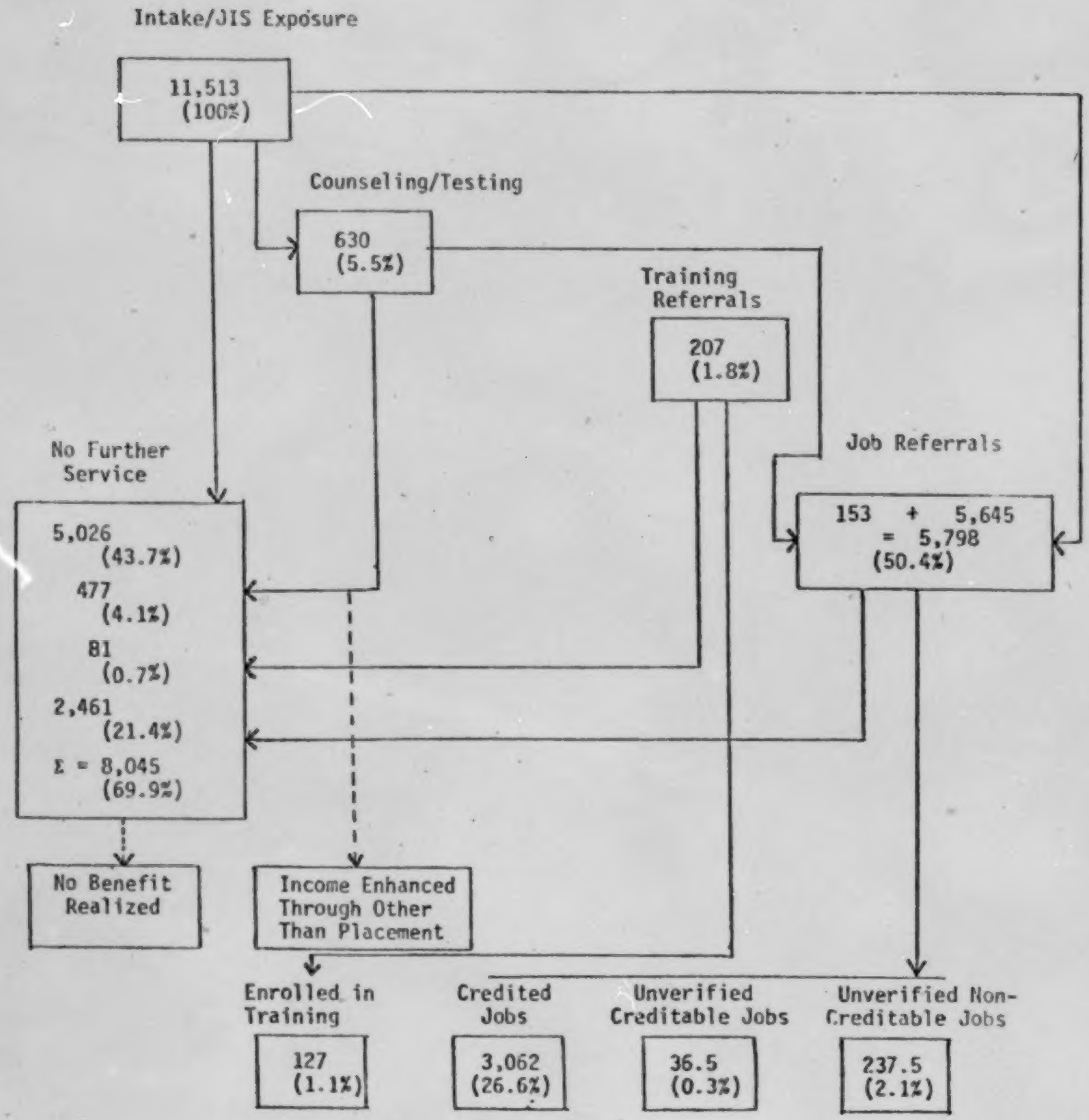

INTAKE
JOB INFO SERVICE
(Job Bank, file search)
COUNSELING/ TESTING
not referred
REFERRAL (Job Development)
referred
NON-PLACEMENT OUTCOMES
PLACED IN IN TRAINING
PLACED IN JOB
- ES creditable
- Credit recorded
P_1
PLACED IN JOB
- ES creditable
- No credit recorded
P_2
PLACED IN JOB
Non-creditable but income may be enhanced
P_3
NO BENEFIT REALIZED
OBTAIN JOB OR OTHER INCOME ENHANCEMENT
P_4

FIGURE 3.2

Estimated Applicant Flows
Based on FY 1974 Total and Sample Data
(All % are in terms of applicants)
(Numbers in 000's)


Intake/JIS Exposure
11,513 (100%)
Counseling/Testing
630 (5.5%)
Training Referrals
207 (1.8%)
Job Referrals
153 + 5,645 = 5,798 (50.4%)
No Further Service
5,026 (43.7%)
477 (4.1%)
81 (0.7%)
2,461 (21.4%)
Σ = 8,045 (69.9%)
No Benefit Realized
Income Enhanced Through Other Than Placement
Enrolled in Training
127 (1.1%)
Credited Jobs
3,062 (26.6%)
Unverified Creditable Jobs
36.5 (0.3%)
Unverified Non-Creditable Jobs
237.5 (2.1%)

individuals referred but not placed. Anecdotal evidence from Missouri ES officials indicates that an average of 15% of these unplaced referrals did, in fact, obtain jobs, although only 2% obtained jobs in creditable placements (where the actual employer is the same as the original job order). Applying these "indirect" placement rates to the fiscal year 1974 total U.S. non-placed job referrals would give a gross estimate of 410,306 indirect placements, or 13.4% of placements.

An alternative is to define a pool of "eligibles" to use as an estimating base as follows. If we suppose that UI claimants who are not successfully placed in a verified placement have no incentive to continue search, we could construct a pool of "indirect placement eligibles" consisting of all non-placed applicants who are not UI claimants. This eligible pool in Missouri in 1974 was approximately 119,000 individuals. Table 3.1 contains estimates of "indirect placement rates" using the eligible pool as a base. The eligible pool for the country as a whole in fiscal year 1974 can be calculated from the BPF data. About 8.5 million individuals were not placed. About 3.9 million of these were UI applicants. Applying the rate from line 16 of Table 3.1 to the eligible pool gives us estimates on a national level of 138,000 indirect placements. If the Missouri experience is not atypical, these numbers (410,000 and 138,000) may provide upper and lower limits of the national average for indirect placements. For illustrative purposes here, we shall take the average (274,000), although in illustrative simulations described in Chapter 6 we shall use both approaches to bracket the estimate for each state. Also, we will distribute this number over creditable and non-creditable placements in the ratios of the Missouri experience (2/15, 13/15).

Note that the number of counselees shown as receiving no further service is sufficiently large to account for all indirect placement estimates in this manner. If, as reported by Katz and in the Washington and Oregon counselee experiments, counseling enhances job and income potential, it may be possible to predict indirect placements on the basis of counseling or other services received.

We can now estimate the number of referrals not placed in any position by subtracting the total of placements in jobs from total referrals. The result is about 2.5 million, or about 2/5 of all job referrals. This result also allows us to calculate the total number of individuals who received no apparent benefit beyond exposure to job information, counseling, and referral services. The sum of the individuals who drop out of the system after each of these respective services is approximately 8 million, or nearly 70% of all applicants. These are individuals who either realize no benefit from their exposure to the ES or obtain some income enhancement through other than direct or indirect placement.
To date, the only evidence that a significant benefit is realized by any of those individuals comes from the analysis of differential earnings by Katz on Pennsylvania data. At this point, we have no evidence at all suggesting the nature of benefits realized by the other individuals.

TABLE 3.1

ESTIMATED INDIRECT PLACEMENTS
IN MISSOURI

1.	1974 APPLICANTS	306,210
2.	REFERRALS (.39 X APPS)	119,422
3.	PLACED	91,324
4.	REFERRALS NOT PLACED	28,098
5.	ESTIMATED "INDIRECTS"	
6.	CREDITABLE (2%)	562
7.	NOT CREDITABLE (13%)	3,653
8.	TOTAL (15%)	4,215
9.	NON-PLACED APPLICANTS	214,886
10.	UI APPLICANTS	115,570
11.	UI-PLACEMENTS	19,987
12.	"ELIGIBLES (9. - 10. + 11.)	119,303
13.	"INDIRECTS" ÷ "ELIGIBLES"	
14.	CREDITABLE	0.4%
15.	NOT CREDITABLE	3.1%
16.	TOTAL	3.5%

One question which might arise at this point is the variation among states in the patterns sketched out here. Analysis of the distributions of BPF data suggest that the pattern is fairly stable both over states and with respect to target populations, although may be shifting over time.

Table 3.3 shows the distribution over states of the rate at which applicants are counseled, referred, placed, and enrolled in training. In the case of the counseling and placement data, the distributions are not estimates but represent population totals from the fiscal year 1976 BPF worksheets. The referral and training enrollment data were obtained from the ESARS 2% sample for fiscal year 1974. The data show fairly tight distributions across states in terms of the major service nodes used to construct the applicant flow charts in Figures 3.1 and 3.2. These tight distributions allow us to interpret the applicant percentages derived in Figure 3.2 as perhaps fairly representative of individual states.

On the basis of ESARS data, there does not appear to be any consistent basis for predicting which groups are most likely to drop out of the system. As indicated in Table 3.3, out of four major priority groups (veterans, minorities, poor, and UI), the UI group has a placement rate less than the average, while the other three groups are all placed at a rate more than the average. In the case of minorities and poor, placements are almost twice the average rate. This perspective is strengthened by the relative low variation of these rates over states. This low variation, incidentally, is surprising given that the distributions of minorities and poor as a percent of applicants across states is one of the most variable distributions of applicant characteristics. The coefficient of variation (the standard deviation divided by the mean) is over .6 for the representation of both these groups and yet the distributions of placement rates for these groups are much tighter. In other words, while there seems to be considerable variation in the rate at which minorities and poor apply to the ES in different states, there is much less variation in the success rates of states in placing these groups. It is also interesting to note that, while the rates at which these groups apply to the ES seems to be fairly stable over time in all cases, there is a significant decrease in the placement rate for each group from 1974 to 1975. But the main point here is that ES placement rates do not allow us to say much in terms of predicting applicant flows.

3.2 Resource Flows

Resource flows are important for understanding the program emphasis of productivity measures. While program cost is not to be used as a substitute for program value, it can suggest the order of magnitude differences in program value. An important result of examining resource flows is an estimate of final output costs. Flow analysis allows us to distinguish resources which support a final outcome as opposed to those which flow as intermediate services to other final outcomes. In what

TABLE 3.3

DISTRIBUTION OF APPLICANTS AND PLACEMENTS OVER STATES BY TARGET POPULATION

	As % All Applicants			Placement Rate for Group		
	(1) Mean	(2) Std. Deviation	(3) (2)÷(1)	(1) Mean	(2) Std. Deviation	(3) (2)÷(1)
VETERANS						
1974	19.2	4.0	20.8	28.1	8.4	29.9
1975	19.8	3.4	17.2	24.7	8.4	34.0
MINORITY						
1974	23.3	17.2	73.8	35.5	12.6	35.5
1975	25.0	19.8	79.2	31.1	10.2	32.8
POOR						
1974	15.8	10.4	65.8	42.1	14.0	33.3
1975	15.3	9.5	62.1	38.9	17.2	44.2
UI						
1974	36.3	18.9	52.1	15.8	6.0	38.0
1975	30.5	22.0	72.1	14.3	11.2	78.3

follows, we have determined direct resource expenditure proportions for the service programs identified in the applicant flow diagrams above. Since all of these support the placement outcome to one extent or another, we have then modified these flows to allocate some of these direct costs forward to placement outcomes. As a result, final cost implications of the intake, job information, and counseling activities are significantly less than proportional to their direct costs.

Table 3.4 derives the direct manyear proportions for the four categories we have defined above as service nodes: intake, counseling, referral, and labor market information. Rows contain the respective time distribution subsystem activity codes which were aggregated to these four categories and columns show manyear data from the second quarter of fiscal year 1975 for Region X states. These data were used because they were readily available. The aggregate manyears for each of the four categories and the percentage of the total of all four categories are shown in the far right hand columns of Table 3.4. In terms of direct manyears used, the percentages are intake 24.4%, manpower information 5.9%, counseling 8.4%, and referral 61.3%.

Table 3.5 uses the applicant flow information generated in the previous section to allocate these direct costs among final outcomes. For purposes of the illustration, a budget of $100 is used, with direct costs for the four categories being determined from the percentages in Table 3.4. A step down allocation procedure is used where dollars at allocated on the basis of direct dollar distribution. The initial assignment of direct costs between support of other activities and final outcomes is made on the basis of the applicant flows except for intake which was assumed to be entirely intermediate to other services.

The effect of this exercise is to skew the distribution of costs much more heavily towards the placement outcomes. Beginning with $100 worth of direct expense divided as shown in Table 3.5, we end up with the following allocations to final outcomes:

Intake....................	Zero
Job Information Service..	$ 4.20
Counseling..............	$ 8.90
Referral................	$86.90

These amounts are, of course, sensitive to the distribution basis used but the ordering of the changeover direct cost is not. In similar fashion, we have used the distributions of applicants over final outcome categories to distribute costs to outcome categories. Since we have no evidence that individuals not counseled or placed in jobs or training derive any benefit from exposure to the employment service, we have entered the $4.20 "full up" cost of job information service final outcomes to the "no effect known" category. There is sufficient evidence available now to support the notion that counseling has an income enhancement effect and so we have allocated the $8.90 of counseling final outcome costs to the third category of income enhancement (unverified non-creditable placement). We have used the distributions of placements over the various placement categories to distribute the referral costs over these categories with the result shown in the blocks to the right of the "Total Resources Flowing to Outcome" column of Table 3.5.

Table 3.6 summarizes both the applicant and resource flow percentages by activity and outcome category. The table indicates that around 44% of the applicants are not exposed to ES services beyond the initial intake and job information service and that a total of 65% flowing through the system realize no recorded benefits. Thirty-five percent realize benefits of varying degrees of verification, mostly through credited placements but also through indirect placements, training placements, and counseling. In terms of resources based on the allocation procedured describe above, about 40% of the manyears are utilized by the 65% of individuals realizing no known benefits while 60% are directed towards known and demonstrable benefits. The bulk of these benefits occur through direct placement, although over 10% of resources flow into outcomes which are not verifiable but for which there is at least some evidence from current research that benefits are realized.

3.3 Priorities for Analysis

The indirect placement question is one which could be answered on a statistical basis in the shortrun for information and analysis purposes. But the main problem created by the indirect placement question is accurate tracking of local office performance for budgeting and reward purposes, and this requires a long-run solution. In the majority of states, on possible long-run solution is to rely on unemployment insurance data bases to follow-up on ES activities, as is being done now in Missouri and a few other states. For states with contact reporting requirements, the solution may involve some combination of utilizing UI report data and periodic surveys. Given that fiscal year 1974 ES costs were about $443 million (excluding the national ES Headquarters) the finding that 10% of ES resources support these indirect placement outcomes means that about $44 million of ES program investment is ultimately unaccounted for. The size of this number as well as the fact that state manyear awards depends critically on placement productivity if not placement value, offer both the state and the national ES an incentive to improve their tracking of these outcomes.

Improved understanding in the short run involves learning more about that actual variations of the indirect placement pheoomenon across states. In our analysis, we have extrapolated from one observation the Missouri experience to the entire country. This approach does not constitute a complete basis for imputation, though being the only one open to us at the time, it is useful for illustrative purposes. We would recommend the following two steps for improving understanding of indirect placements, their magnitude, and the driving factors behind them. First,

TABLE 3.4

ES MAN-YEARS BY SERVICE FUNCTION*

(2ND QUARTER FY 1975)

Service Function	Code	Oregon	Washington	Idaho	Total	Percent
INTAKE	511	113.1	139.91	60.89	313.90	24.4
COUNSELING						
COUNSELING	512	35.40	17.17	8.36		
TESTING	513	5.30	4.77	3.26		
TEST DEVELOPMENT	565	3.84	2.62	0		
OTHER	514	11.01	13.96	2.36		
TOTAL...........		55.55	38.52	13.98	108.05	8.4
REFERRAL						
TRAINING	520	22.33	47.91	15.33		
EMPLOYMENT	531	166.26	259.06	60.99		
JD & P-OJT	532	46.43	37.85	3.0		
JD & P-PSE	533	4.28	6.47	1.78		
EXPERIENCE	534	.97	1.28	.32		
EMPLOYMENT SERVICE	551	16.21	48.68	5.11		
TECHNICAL SERVICE	552	1.14	4.78	.37		
COMM. SERVICE	554	6.85	27.82	5.00		
TOTAL..........		264.47	433.85	91.90	790.22	61.3
LABOR MARKET INFORMATION						
LABOR AREA INFORMATION	561	17.62	22.84	8.02		
OCCUPATIONAL INFORMATION	562	10.74	3.16	2.59		
OR	563	0	0	0		
OCCUPATIONAL ANALYSIS	564	0	11.28	0		
TOTAL..........		28.36	37.28	10.61	76.25	5.9
					1,288.42	100.0

*Immigration Activities Excluded

TABLE 3.5

ES RESOURCE FLOW

ALLOCATIONS OF $100 DIRECT COST TO
ACTIVITIES AND FINAL OUTCOMES

ACTIVITIES	REFERRAL	COUNSELING	JOB INFORMATION	INTAKE	DIRECT COSTS OF FINAL OUTCOMES	TOTAL RESOURCES FLOWING TO OUTCOME	OUTCOMES PLACED JOB P_1	PLACED JOB P_2	INCOME ENHANCED P3	NO EFFECT KNOWN	PLACED IN TRAINING
REFERRAL					61.3	86.9	44	0.5	3.5	36.8	1.8
COUNSELING	2.2				6.2	8.9			8.9	0	
JOB INFORMATION SERVICE	2.3	.4			3.2	4.2			0	4.2	
INTAKE	19.8										
DIRECT RESOURCE COSTS	61.3	8.4	4.9	24.4	$100						

Final Outcomes	Source	Allocations Direct	Allocated	Total
Job Info Service	Own	3.2	0	3.2
	Intake	1.0	0	1.0
	All	4.2		4.2
Counseling	Own	6.2	0	6.2
	JIS	.3	.1	.4
	Intake	2.3	0	2.3
	All	8.8	.1	8.9
Referral	Own	61.3	0	61.3
	Couns.	2.2	.6	2.8
	JIS	2.3	.7	3.0
	Intake	19.8	0	19.8
	All	85.6	1.3	86.9

TABLE 3.6

SUMMARY OF APPLICANT AND RESOURCE FLOWS BY FINAL OUTCOME

(Percent of Total)

	Known Benefits Realized					No Known Benefits Realized	
		Placed in Jobs					
Applicant Flows	Credited	Creditable	Other	Placed in Training	Sub-Total	No Effect Known	Total
REFERRED	26.6	0.3	2.1	1.1	30.1	22.1	52.2
COUNSELED	0	0	4.1	0	4.1	0	4.1
JIS EXPOSURE	0	0	0	0	0	43.7	43.7
TOTAL.....	26.6	0.3	6.2	1.1	34.2	65.8	100.0%
Resource Flows							
REFERRALS	44.0	0.5	3.5	1.8	49.8	37.1	86.9
COUNSELING	0	0	8.9	0	8.9	0	8.9
JIS EXPOSURE	0	0	0	0	0	4.2	4.2
TOTAL.....	44.0	0.5	12.4	1.8	58.7	41.3	100.0%

obtain samples from several states on individuals obtaining indirect placements in a manner which preserve information on both the placement and the individual. In states like Missouri, this could be achieved simply through access to current files set up to measure indirect placements. In other states surveys would have to be used. Second, analyze these data in order to determine, first of all, the relative magnitude of the phenomenon for different areas and also to determine the factors which make it likely for the individual to obtain an indirect placement. It may be that these factors are not limited to the characteristics of the individual or of the area in which he is placed. We suspect that they also include organizational aspects of the employer, such as size, type of personnel procedures as well as industrial relations characteristics of the industry. Such an analysis should be very fruitful in terms of explaining the level and nature of indirect placements. Out of such results both improved tracking procedures could be developed, as well as improved information bases for performance evaluation and funding allocation purposes.

4.0 THE VALUE OF EMPLOYMENT SERVICE LABOR EXCHANGE OUTPUTS

Our analysis has suggested that the majority of labor exchange activities of the ES, except for a small residual of labor market information activities, are intermediate to the production of direct or indirect placements. A satisfactory measure of placement value is thus a prerequisite for measuring labor exchange output value and productivity. In this chapter, the role of the ES in enhancing jobsearch is developed into a model of placement value. Measurement problems are discussed. Finally, a sample of ES placement transaction data supplemented by other evidence on placement dimensions is used to generate illustrative measures of labor exchange output value by state for fiscal year 1974.

4.1 Jobsearch and the Employment Service

We have noted the widespread recognition of the role of the Employment Service in improving the efficiency of the labor market, but no development of the ES role in enhancing search. The economic role of the ES may be fruitfully analyzed as enhancing the productivity of jobsearch. The following observations are condensed from a more thorough exploration of this topic in Appendix C.

For those individuals who are actively seeking employment opportunities, search activity is an investment because there is some sacrifice of productive opportunities in the present for an improvement in future earnings. The theoretical literature on search points out that "productive opportunities" may consist of leisure time, unemployment insurance payments, and the real income (psychic as well as money) from both the non-market and market activities which must be sacrificed in order to search and which must be improved upon for search to be worthwhile. The improved future earnings may relate to a job stream or career path consisting of more than one job. Also, costs and benefits realized in future time periods must be discounted to reflect remoteness and the extent to which remoteness reduces the individual's present evaluation income. In this framework the basic decision faced by an individual engaged in search at a point in time is how long to search or how many job offers to solicit.

In recent economic literature, various mathematical optimization models have been developed to explore search behavior and the effects of conditions such as uncertanty on the optimal search stopping time. These models generally proceed from the conventional assumption of utility maximizing behavior by individuals to develop testable hypotheses related to optimal amount of information to obtain (the level of search investment) before accepting an offer or leaving the work force. The treatments "information" in such models vary, but typically the search information investment is defined in terms of the numbers of job offers sought or the number of periods of search. Effects on the optimum search level have been explored with respect to such variables as the costs of search, the dispersion of wages, the degree of certainty about the distribution of job offers, the length of the time horizon, the intensity of search and the searcher's ability to adapt his reservation wage to perceived wage distributions.

An excellent review of this literature is found in Lippman and McCall "The Economics of Job Search: A Survey" Economic Inquiry, XIV:155-189, June 1976.

An individual's time (and opportunity cost) are not the only input into jobsearch. To some extent, other inputs may be substituted for one's own time in the process. For example, the job seeker may subscribe to newspapers for purposes of looking at want ads, he may subscribe to trade journals to get a better look at openings in his field, or he may pay an employment agency to place him.

When all inputs are considered in the search process, application of constant increments of other inputs to given amounts of search time increase the expected incremental benefits of search time but at a decreasing rate. Given the use of other inputs in the search production process, the individual faces the decision at some initial point in time not only of how long to search but of what other inputs to invest in the process as well.

In this context, there are two types of services of value which can be provided by a labor exchange. It can increase the range of opportunities open to an individual or lower the cost of obtaining an offer from a given set of opportunities. More specifically, a labor exchange can (1) enhance the differential income per period; (2) enhance the (elapsed) duration or reduce the riskiness associated with income streams; and (3) produce more cheaply than currently available the services associated with search, such as identifying an employer pool, finding job openings, matching skills to need, and obtaining referrals. In any case, the labor exchange service will have value to the individual but the value may not necessarily be measured solely in terms of reduced search time. As discussed above, an individual decides on the most productive combination of inputs to conduct his search activity based on the expected returns and the cost of the services and his own time. Depending on whether the services offered by the labor exchange are complements or substitutes for the individual's own time, the individual may invest more or less of his own time when first confronted with the opportunity to use such services. In this regard, it is possible that the individual may increase his search time investment and thus extend an apparent duration of unemployment.

Purely in terms of economic efficienty, a publicly financed labor exchange may generate benefits in addition to those offered by a private agency by performing the following functions:

1. Correcting erroneous expectations of job seekers in order to allow better decision-making on appropriate levels of search activity. Since expectations may apply to all parameters of the jobsearch decision -- income differentials, risk, duration, and possibly search or job training costs, education or counseling -- returns may be measured in terms of their impact on any or all of these aspects.

2. Correcting counterproductive job requirements on the part of employers.

3. Entering job markets where private incentives are insufficient to provide services of positive net value.

4.2 The Value of Placement: A Numerical Illustration

Conceptually, the placement of an individual in employment enhances the incomes of both firms and individuals by increasing the net benefits (both private and social) resulting from search by firms and employers. In a gross sense, the ES can enhance the benefits of search by increasing the duration of jobs and increasing earnings. For individuals, increased earnings represent some combination of greater compensation and greater job satisfaction. For firms, increased earnings may be interpreted either as greater profitability or the ability to sell the same product at reduced prices, in which case the benefits accrue to consumers. Also, in a gross sense, cost reduction occurs in the form of reduced duration of search (shorter unemployment for individuals, shorter vacancies and lower turnover rates for firms) and reduced search expenses. Out-of-pocket expenses incurred by individuals during search are probably not large but for firms the cost of screening and interviewing job applicants may be substantial. In a net sense, even though exposing individuals and firms to greater opportunities may result in their spending more time in search, the ES might still increase net social benefits as long as the benefits are increased by more than the costs. An example of such a case might be in making individuals aware of new career opportunities which require that they invest more time in search but which also rewards them with a more promising long-term earnings horizon.

For illustrative purposes, consider how the components of net placement benefits might appear in a specific case. In the following example, we consider only the value to the individual. (That is, we ignore for the sake of simplicity the value to the firm and the long-run social benefits which are not realized through the enhancement of an individual's income stream.) The term "social benefit" indicates that transfer payments are considered to be offsetting. In other words, the true differential earnings streams for individuals are those earned income streams which are a return to productive activity, rather than the difference between a job opportunity and a UI or other income maintenance claim benefit.

Consider an individual who faces three possible income streams over a fourteen month period. Figure 4.1 identifies these three possibilities. Profile A, a job paying $458.00 a month is the individual's present job which is, of course, available to him without search. Profile B represents what the individual could accomplish on his own after some investment of search time. As shown in Figure 4.1, opportunity B represents a job paying $613.00 a month for eleven months, but the individual would have to spend two months searching to obtain this job on his own. Profile C represents an opportunity made available to the individual by the ES.

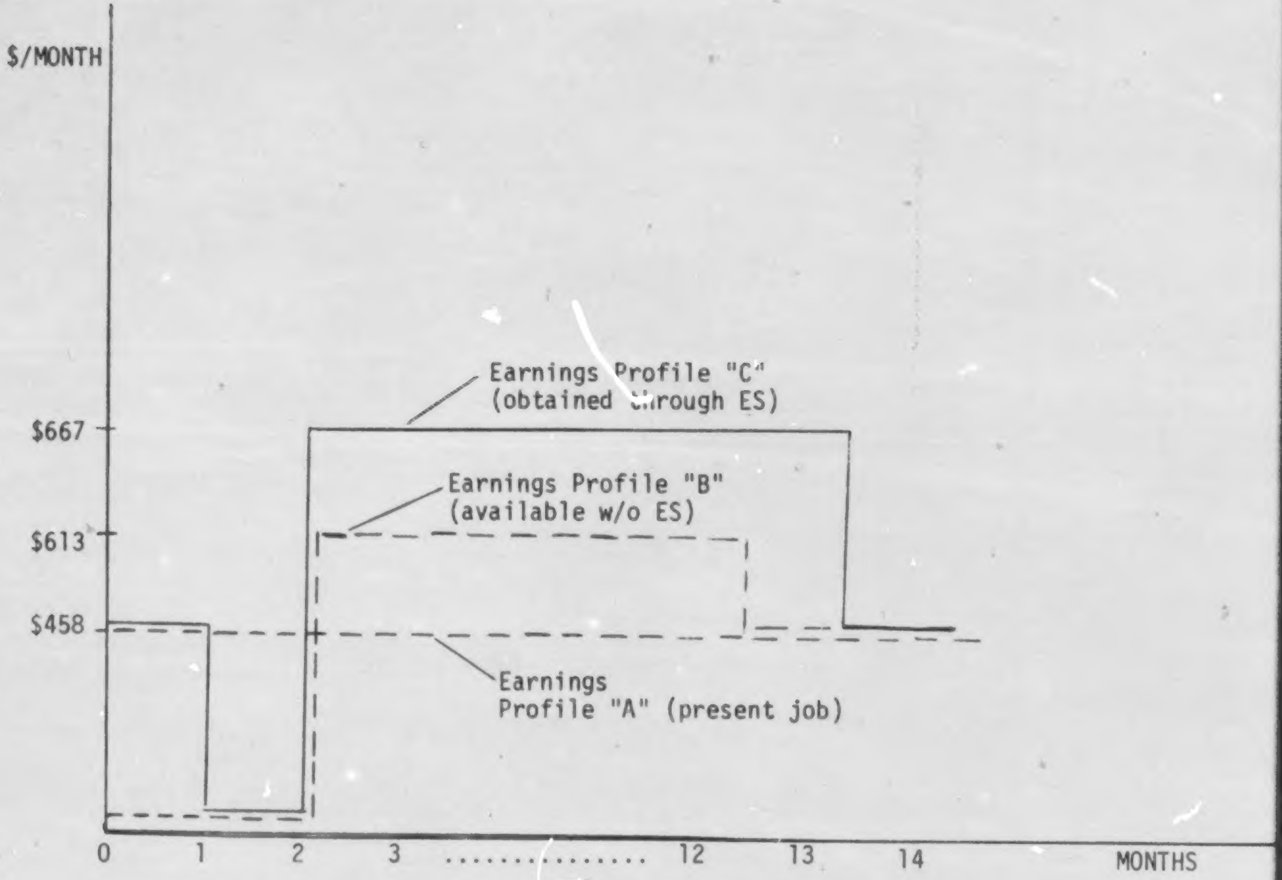


FIGURE 1

ILLUSTRATIVE EARNINGS PROFILES

This job lasts one month longer (12 months) and it also pays more ($667 a month). In addition, because the ES is helping to place the individual, he can expend less jobsearch time. As shown in Figure 4.1, the individual searches only one month to obtain this opportunity. Note that the effect of this saving in search time is that the individual can work one month longer at his old job before he has to start searching. Also note the effect of a longer job duration is that the individual can wait until the 14th month before returning to his original job (income stream A). (We have assumed here that opportunity A is costlessly available to the individual even after he leaves it. This assumption is made for the sake of simplicity and does not affect the analytical principles being illustrated.) Finally, assume that the individual would spend $10 a month of his own money while searching on his own, but that when he is assisted by ES he no longer needs to make these expenditures.

We may then approach the question of assessing the value of an ES placement. Since the time span considered here is short enough to obviate the need for discounting, we can simply calculate the differentials between the earnings profile obtained through ES and the best set of opportunities which the individual could obtain on his own, also adding in any reductions in costs of search. For the example illustrated in Figure 4.1, the total value of an ES placement can be calculated as follows:

Item	Amount
1. Savings in out-of-pocket costs during the one-month the individual searches with ES	$ 10.00
2. Savings of both productive opportunities foregone out-of-pocket expenses due to reduction of search time by one month	458.00
3. Real income differential over 11 months in which opportunities B and C overlap ($667-$613) x 11	594.00
4. Real income differential for extra month of duration of opportunity ($667-$458)	209.00
	$1,281.00

The amount $1,281.00 represents the value of the ES placement to the individual based on the assumptions illustrated in Figure 4.1. Note that Items 1. and 2. are components of this value which come through reductions in search costs, while Items 3. and 4. are components which come about through enhancement or extension of the benefits of search.

The conceptual basis for assessing placement values developed in the foregoing illustration is the earnings differential attributable to the placement. To summarize, the value of placement can be calculated as the present value of the difference between the income of the ES job read job stream and the income that the individual would have earned from a job found on his own, without ES assistance, plus the present value of the difference in search costs for the two opportunities. Algebraically, the calculation can be summarized as follows in Equation (1):

TABLE 4.1

ILLUSTRATION OF EMPLOYMENT SERVICE LABOR EXCHANGE BENEFITS BY STATE

FISCAL YEAR 1974
($ Millions)

Labor Exchange Benefits

	(1) Direct Placement Value	(2) Search Cost Savings	(3) Indirect Placements	(4) Subtotal Output Effects	(5) Total UI Savings	(6) Total Labor Exchange Social Benefits
Alabama	3.553	3.093	.300	6.946	1.201	8.147
Alaska	2.078	.639	.110	2.827	.255	3.082
Arizona	2.442	4.040	.222	6.704	1.035	7.739
Arkansas	3.537	4.482	.214	8.233	.496	8.729
California	27.845	17.980	2.656	48.481	14.495	62.976
Colorado	1.592	3.916	.141	5.649	.658	6.307
Connecticut	2.134	1.042	.376	3.552	1.236	4.788
Dist. Columbia	6.347	2.869	.376	9.592	.262	9.854
Florida	6.762	8.280	.717	15.759	.879	16.638
Goergia	5.209	4.102	.318	9.629	.909	10.538
Hawaii	1.248	.451	.167	1.866	.588	2.454
Idaho	1.728	1.483	.105	3.316	.574	3.890
Illinois	19.823	11.979	1.554	33.356	2.500	35.856
Indiana	7.376	4.419	.712	12.507	1.594	14.101
Iowa	3.634	4.755	.192	8.581	1.418	9.999
Kansas	1.828	2.514	.153	4.495	.900	5.395
Kentucky	4.056	2.789	.232	7.077	.705	7.782
Maine	.871	.677	.079	1.627	.518	2.145
Maryland	.965	1.012	.086	2.063	.532	2.595
Massachusetts	6.130	5.011	.542	11.683	1.347	13.030
Michigan	7.880	5.150	.927	13.957	2.582	16.539
Minnesota	3.351	3.131	.287	6.769	1.626	8.395
Mississippi	4.708	3.956	.220	8.884	.567	9.451
Missouri	7.974	4.934	.546	13.454	2.213	15.667
Montana	1.911	1.473	.038	3.422	.567	3.989
Nebraska	2.141	2.443	.160	4.744	.603	5.347

TABLE 4.1 (Continued)

Labor Exchange Benefits

	(1) Direct Placement Value	(2) Search Cost Savings	(3) Indirect Placements	(4) Subtotal Output Effects	(5) Total UI Placements	(6) Total Labor Exchange Social Benefits
New Hampshire	.503	.519	.075	1.096	.266	1.362
New Jersey	5.847	5.502	.800	12.149	2.326	14.475
New York	20.048	35.743	1.846	57.637	4.147	61.784
North Carolina	3.852	4.529	.389	8.770	.334	9.104
North Dakota	1.572	1.420	.094	3.086	.333	3.419
Ohio	4.934	5.027	.610	10.571	2.901	13.472
Oklahoma	3.301	6.010	.198	9.509	.789	10.298
Oregon	3.268	3.489	.268	7.025	.935	7.960
Pennsylvania	9.799	7.539	.810	18.148	4.568	22.716
South Carolina	2.989	1.997	.338	5.324	1.241	6.566
South Dakota	.781	1.521	.052	2.354	.314	2.668
Texas	13.875	14.960	1.453	30.288	6.556	36.844
Utah	2.617	2.077	.251	4.945	1.140	6.085
Vermont	.552	.400	.075	1.027	.480	1.507
Virginia	2.568	2.615	.181	5.364	.685	6.049
Washington	5.259	5.246	.422	10.927	1.009	11.936
West Virginia	2.013	1.498	.132	3.643	.442	4.085
Wisconsin	8.688	8.419	.897	18.004	1.423	19.427
Wyoming	.737	1.137	.033	1.907	.176	2.083
Subtotals	230.326	216.267	20.354	466.947	70.329	537.276
Percentage Distribution of Total Benefits	42.8	40.3	3.8	86.9	13.1	100

Missing States: Delaware, Louisiana, Nevada, New Mexico, Puerto Rico, Rhode Island, Tennessee, Virgin Islands, Guam

$$(1)\quad \text{Value of ES Placement} = Y_{es} - Y_{o}$$

$$= (\text{Wage rate})_{es}(\text{Hours})_{es} - (\text{Search costs})_{es}$$

$$(\text{Wage rate})_{o}(\text{Hours})_{o} - (\text{Search costs})_{o}$$

where the subscripts es and o denote the employment opportunity with and without ES assistance respectively.

There are a number of problems in applying this measure. First, the non-ES opportunity is not directly observable. Second, indirect ES placements are not observable. Third, dimensions of all direct ES placements are observable, but follow-up on ES actual job durations and wages is evidently quite poor. As discussed in Appendix G, one study found that less than 30% of placements recorded as "long-term" by the ES actually last the expected duration. Fourth, the search costs for either opportunity are not directly observable.

However, sufficient data existed to enable each of these problems to be dealt with to some extent and to allow illustrative estimation of the social value of ES placement (excluding the value to firms) by state for fiscal year 1974. The following section outlines the methodology followed to arrive at placement value estimates. Each of the four problems mentioned above is addressed. In Section 4.4, value estimates are presented.

4.3 Employment Service Placement Value Model

A placement value model was developed to approximate the calculation summarized in Equation (1) and applied to generate illustrative estimates of ES placement values. The data sources, methodology and computer software are documented in Appendices F and G, and summarized below. Results are displayed in Appendix H and Table 4.1, below.

Primary Data Source

The basic data source for these computations is the FY 1974 ESARS 2% sample file. This extensive sample (over 350,000 individual records) was mounted as a tape file on the BCS IBM 370-168 at Kent, Washington.

Although the file is intended to reflect a 2% sample of the entire ES system, a number of states and U.S. territories were not included in the computer records transmitted to BCS. (Omitted from the sample file are Delaware, Louisiana, Nevada, New Mexico, Rhode Island, Tennessee, Puero Rico, Guam, and the Virgin Islands.) The calculations described below were performed for each ES placement in the ESARS 2% sample file (over 60,000) and subtotalled for each state.

Estimate of Job Income Differential

Equation (1) can be restated as follows:

$$\text{Value of ES Placement} = (\text{Wage})_{es}(\text{Hours})_{es} - (\text{Wage})_{o}(\text{Hours})_{o} + (\text{Search}_{es} - \text{Search}_{o})$$

Dimensions of the non-ES job $(\text{Wage})_o(\text{Hours})_o$ are not directly observable from existing data. As an approximation, our calculations employ the following proxy method of estimating the job income differential (the first two terms of equation (1)):

$$(2)\ \text{Estimate of Job Income Differential} = (W_{es})(H_{es}) - (1-u_{ijk})(W_{es})(H_{es})$$

where u_{ijk} is the respective unemployment rate estimate for each sex/race/age group of the individual placed. The term $(1-u_{ijk})$ in Equation (2) can be interpreted as an estimate of the locale-specific "probability" of the individual (sex (i), race (j), age (k)) finding employment on his own. More directly, this term of the equation expresses the probability of the individual finding the ES job opportunity without the assistance of the ES.

The numerical factors utilized in the estimations of Equation (2) are as follows:

a. Wage Rates: As recorded in the ESARS sample file, for each placement.

b. Job Duration: (For the categories shown in the ESARS file)

1 - 3 day placements 16 hours
4 - 150 day placements 385 hours
Over 150 days placements = 385 hours

These interpretations of the recorded placement categories are based on truncated integration of an exponential decay function fit to available data on action durations of ES placements. The data came from a study conducted of six labor market areas in 1974 reported in Kuptzin (1975). Data and analytical procedures are described more fully in Appendix G.

The unemployment rate estimates used were based on 1973 data for states and SMSA's from the Manpower Report of the President, April 1974, Appendix Tables D-5 and D-7, and the Bureau of Labor Statistics Report 321, 1974, "Geographic Profile of Employment and Unemployment for 1973," Tables 1, 3 and 5. Data for calendar year 1973 were used because data for FY 1974 were not available in sufficient detail and because economic conditions in calendar year 1973 were closest to those for FY 1974 (by the second half of 1974, unemployment had begun to rise sharply). The BLS data provided labor force and unemployment statistics by sex, race and age groupings for each federal region, for the 19 largest states and the 30 largest SMSA's. Detailed data for the remaining states were then estimated by the following technique. Within the region, the labor force and unemployment for each sex/race/age group for the largest state were deducted from the region totals. The remainders were then allocated among the other states in the region in proportion to their total labor force and unemployment found in the Manpower Report data. Finally, unemployment rates were computed for each age/sex/race group. Because of the allocative nature of this technique, any estimating errors tend to be bounded by the regional totals and tend to be compensating. SMSA estimates for smaller cities were performed in the same manner.

Search Time Cost Savings

Equation (2) provides an estimate of the job income differential of placements. An additional component of placement value included in Equation (1) is the savings in costs of search for the individual placed. In reality, similar savings may also be realized by individuals who drop out of the labor market, but no data exist which permit investigation of this possibility.

Three studies, discussed in Appendix G, provide evidence on the question of search cost savings. The evidence is mixed and to a certain extent conflicting but, in our judgment, the strongest evidence available (from studies by Katz, 1975) supports the conclusion that the ES saves individuals about 1.25 weeks of search effort. Since individuals appear to search at a rate of about 18 hours per week (Felder, 1975), we obtained an average estimate of search cost savings from

	Weeks Saved		Search Rate		Savings
(3)	1.25	x	18 hrs/wk	=	22.5 hours

evaluated at the recorded wage of each placement.

Indirect Placements

As discussed in the preceding chapter, not all placements which result from ES treatments are recorded by the ES. Hence, application of Equations (2) and (3) to recorded placement data is likely to understate the placement value generated by a given level of ES resources. The results presented in Chapter 3.0 suggest that indirect placements may be as high as 13 percent of varified direct placements. Using the Missouri experience as a basis, we estimated that indirect placements nationally for FY 1974 fell within the range of 138,000 to 410,000. Non-placed referrals for the United States in FY 1974 were 2,735,000. Translated to percentages of non-placed referrals, the range of indirect placements is .05 to .15. The simple mean .10 is our midpoint estimate of indirect placements as a percentage of non-placed (recorded) referrals.

Our estimate for indirect placements is thus a function of direct placement values and non-placed referrals. For each state, indirect placement values are estimated as

$$(4)\quad \text{Value of Indirect Placements} = \frac{.10\,(\text{individuals referred} - \text{Individuals placed})}{\text{Individuals placed}} \times (\text{Total State Direct Placement Value})$$

Search cost savings are not imputed to indirect placements since, as placements not recorded after ES referrals, it is likely that indirect placements take longer than direct or credited placements.

An Additional Benefit: Placement of Unemployment Insurance Claimants

In addition to the differential income effects of placements expressed in Equations (2), (3) and (4), ES placements of UI claimants result in transfer payment savings which need not be paid to this particular group. Since this saving is exactly offset by an income loss to the individual who gives up his claim to go back to work, it does not represent an additional output effect from the point of voeiw of society as a whole (except insofar as fewer resources are used in processing claims). But as a resultion to claims against social accounts, from the point of fund managers and current beneficiaries of UI, the claim saving represents an increase in value for the Employment Service.

We have referred to the remarks of Professor Steiner (Chapter 1) that there is some set of weights which makes output and transfer effects additive in the context of a social welfare or "public interest" function. There is presumably relative social weight which makes these transfer savings comparable to the social values of output effects of placements. We have no evidence for determining the appropriate weight for such savings; however, we speculate that for valid beneficiaries and for funders of the UI system, these savings may be valued as real income. In other words, for this group we speculate that the weight is 1, and that these transfer savings may be added to the output effects in assessing total productivity. While we recognize the speculative nature of this assumption, we feel that for completeness, this additivity should be illustrated in our model.

Our estimate of the transfer savings component consists of multiplying total UI claimants placed times the average weekly claim value for the state times the number of weeks of claim duration saved due to ES placement. It is assumed that UI claimants placed are not likely to be claim exhaustees because their placement is evidence of a sincere search for work. For these individuals, the savings in claim duration liability is assumed to be two weeks for all states. The two week savings reflects the hypothesis - not thoroughly tested in any of the empirical studies we have reviewed - that the UI payment does somehow diminish the incentives of individuals to search for work. Hence, we have chosen a duration - albeit arbitrary - which is somewhat longer than that for non UI beneficiaries. Claims saved by UI placements are thus calculated as follows for each state:

(5) UI Claims Saved = (UI placements)(2 weeks)(average weekly UI benefit for the particular state)

Omitted Aspects

This model captures, in our judgment, most of the components of the social and economic value of the ES labor exchange outputs. Some aspects of ES labor exchange activities are omitted. The following parts of the charter of the ES have not been dealt with:

- Benefits to the firm.

- The ES acts as agent for the Federal Government in developing the data on local employment conditions. In distributing such labor market information, the ES provides inputs for national level economic policy decisions in the public sector, and provides locale-specific data for use by private industry in marketing and plant location decisions.

- The ES provides employment data for CETA resource allocations and for the implementation of special area assistance programs (e.g., EDA).

- The ES provides a system for implementing Federal anti-recession, emergency and labor mobilization programs, and for operating programs for facilitating re-employment after natural disasters.

- The ES provides advisory services to help design local job-oriented educational curricula and planning local manpower programs.

In addition, social values of placements above the direct output and pretax income effects have not been dealt with beyond analysis of priority weights for ES target groups found in the BPF. Two significant studies published in recent years in the Journal of Political Economy (JPE) indicate that there is a distinct positive correlation between the incidence of crime among young people and the unemployment of youth. The first study, by Belton Fleisher, on "The Effect of Unemployment on Juvenile Delinquency" (JPE, December 1963) was based primarily on regression analysis applied to data from Boston, Chicago and Cincinnati for the years 1932-1961. These regressions reveal significant positive correlation between male unemployment in the age brackets 14-19 and 20-24, and arrests for crimes against property (burglary, larcy, auto theft and robbery). In the second study, "Crime, Youth and the Labor Market" (JPE, May/June 1972), L. Phillips, H. L. Botey, and D. Maxwell used national data to estimate equations for 18 to 19 year old males for the period 1953-1967. These equations reveal a very close correlation between increases in crimes against property by this age group and decreases in their employment rates. The estimated equations were also good predicators of burglary, robbery and auto theft rates for 1968, 1969 and 1970. Therefore, ES job placement for the "youth" group can have potentially large external (social benefit) effects. In the Balanced Placement Formula, the relative weight for placements of this group is 2 (versus 5 for veterans and 3 for migrants, minorities, et al). The articles cited above suggest that the BPF weight for "youth" might be too low relative to other priority groups. A comprehensive social cost - social benefit perspective would be required to explore perhaps more appropriate incentives for local ES placement attention.

4.4 Estimates of ES Labor Exchange Output Value

Table 4-1 shows the results of applying Equations (1)-(4) to the ESARS 2% sample file, unemployment rate data, and data on UI claim values. Software and supporting data used for these estimates are documented in Appendix F. Column (1) contains the estimates of job income differentials for all placements by state for FY 1974. Column (2) contains the estimates of search cost savings, and column (3) contains estimated indirect placement values. These columns represent results of calculations using Equations (2)-(4) aggregated to the state level. Column (4) is the sum of columns (1)-(3) and represents total estimated "social output" effects of ES labor exchange outputs. Column (5) represents the UI claim savings, and column (6) is the gross total of labor exchange output values.

As our discussion of unemployment insurance claim savings suggests, this total of "raw" dollar values represents a mixture of benefits, some accruing to the individual, some representing transfer cost savings. To be sure, the "social value" weights of these components should be incorporated to permit proper aggregation. Here we assume simple additivity (each column weight = 1) for purposes of illustration only. It is not without a conscious recognition of this crucial simplification that these calculations are shown. However, the purpose here is to derive an illustrative estimation. More sophisticated aggregations would reflect the relative distributive and social value weights we have alluded to above.

5.0 DIMENSIONS, OUTCOMES AND VALUES OF ES ENFORCEMENT ACTIVITIES

A number of Employment Service activities are directed at enforcing regulations of either the Department of Labor or other Federal and State agencies. These include the Unemployment Insurance work test, the Food Stamp and other welfare program work tests, immigration services, farm worker housing and wage standards, and worker complaints. The precise role performed by the Employment Service in these enforcement processes varies. In some cases, its role is to report to other agencies, which then make any enforcement decisions; in others, the ES has a more definitive enforcement role. The subject is only dealt with in a cursory fashion in the literature, and since the potential values generated by the UI work test activities are substantial, elaboration is warranted.

In this chapter the activities of the Employment Service related to each of the enforcement processes are described, and the benefits which they are presumed to generate are evaluated. The descriptions and analysis are based primarily on our site visits, subsequent discussions with several individuals at regional headquarters, UI and ESARS data collected at the national level. Value data are generated only for UI work test outputs, and are based on UI claim statistics.

Our findings indicate that the work test activities may involve up to 58% of ES users. The work test may, through direct and deterrent effects on invalid claiments, be highly productivie in terms of savings of invalid income transfers from social accounts to invalid claimants. In addition, to the extent that detected or deterred claimants return to or are discouraged from learning jobs social output is increased although the evidence suggests that this effect is not large. Findings reported in this chapter are largely condensed from empirical analyses reported in Appendices D and E.

5.1 Work Test Activities and Outcomes

The ES performs work test activities for the following income maintenance programs: Unemployment Insurance, Food Stamps, and other Federal/State welfare programs, primarily Aid to Families with Dependent Children (AFDC). The table below compiled from ESARS Tables 3 and 6 for agricultural and non-agricultural placements in FY 1974, illustrates the relative frequency with which beneficiaries of these programs use the ES.

FY 1974 APPLICANTS, REFERRALS AND PLACEMENTS*

	New Applic. & Renewals	% of Total	Total Available	Referred	Placed	% New Apps. Placed
Total	13,300,000	100.0	16,600,000	6,203,487	3,338,707	25.1
Food Stamp	953,517	7.2	1,700,512	293,728	146,616	15.3
Welfare	1,327,834	10.0	2,489,146	460,891	259,954	19.6
UI	4,547,700	34.2	4,660,586**	1,157,407**	610,900**	13.4

*Table 22, row 095, was source of placements; Table 11, row 130, was source for referrals; Table 6, col. D was source of new applicants and renewals; Col. E was source of available applicants.

**Extrapolated from ESARS 2% sample.

Actual work test data are not available by category of beneficiary but it is clear from these data that the UI group is the largest potential pool of individuals for work test activities, followed by welfare and food stamp recipients. For all these groups the rate at which applicants are placed is substantially below the average for ES applicants as a whole but the rate at which referrals are placed is very similar for all groups. This situation reflects two differences which might distinguish these individuals from the balance of ES users. First, most states require that beneficiaries who are determined to be employable (i.e., there is a known market for their skills) register with the ES as a condition for receiving benefits. Since registration is not entirely voluntary, we would expect lower referral and placement rates to be observed for these applicant groups. Second, as beneficiaries of income maintenance programs, these individuals already tend to be less employable than the population at large. The characteristics of these individuals also differ among the groups as does the nature of the work test performed. The following paragraphs discuss these differences in more detail.

Unemployment Insurance Work Test

In almost every state, unemployment compensation is intended to provide income insurance to those who are involuntarily unemployed. Technically, those who have "dropped out of the labor force" (that is, those without jobs who are not looking for work) are not eligible for unemployment compensation. Typically, unemployment compensation recipients are queried periodically, either by mail or in person, as to their recent attempts to obtain employment. In addition, since UC recipients are presumed to be searching for employment, most are registered automatically with the Employment Service so that they may be referred and possibly placed by that agency. In theory, if a UC recipient refuses to be referred to potential employment by the ES, or refuses an offer of employment through an ES referral, he can be presumed not to be actively searching for work and, therefore, ineligible for unemployment compensation. This is the essential nature of the UI work test performed by ES. If the ES requests that a UC recipient report for possible referral and he does not do so, or if upon reporting refuses to see the employer, or refuses an offer of employment upon referral, this fact is reported to the Unemployment Insurance Office. It is then UI's responsibility to determine whether or not this unwillingness on the part of the recipient is grounds for revoking his unemployment compensation claim.

It is possible that the work test is less effective than it might be for a number of reasons. In principle, when a job order is received by the ES, a file search is conducted to determine the most qualified available person among current ES applicants. In point of fact, the majority of ES referrals and placements rely on the "walk-in trade"; those currently in the office filing applications or checking up on possible new job orders are most likely to be referred when a job order arrives. The justification for this procedure is efficiency. By eliminating the need for a file search, the time required to accomplish a referral is reduced and the number of referrals and placements per manhour is increased. As a result, there is a tendency for UI recipients to be considered for employment only after the walk-in trade has first been accommodated as a source of referral. This problem also appears to have been exacerbated recently by the introduction of Job Information Service self-help systems in many states. Because these systems tend to place more emphasis on the individual selecting jobs he finds suitable, it reinforces the tendency for walk-ins to have first opportunity for referral and placement.

An additional factor which tends to reduce the effectiveness of the work test is the policy in most states of not requiring that the work test be satisfied for workers who are "employer attached," primarily men who are awaiting recall to a job from which they have been laid off. Further, a large proportion of these states do not require that the work test be applied to workers who are "union attached," a description which varies by state from all union members to those men belonging to unions which operate hiring halls, such as the construction trades.

The UI work test can lead to three outcomes: placement of the claimant (and cessation of the claim), validation and continuation of the claim, or invalidation and discontinuation of the claim. By category of claimant, the ES does not maintain national statistics on work tests and outcomes; however, the UI publication "Unemployment Insurance Statistics" reports denials of UI claims by cause. This source indicates that in FY 1974 approximately 61,000 claims were denied for refusal of suitable work (a determination arrived at principally through the ES work test). This number amounts to 5.3% of UI referrals in that year. Placements amounted to 52.8% of referrals, which is nearly the same rate at which all ES referrals were placed. Not all UI referrals constitute a work test in the true sense since many claimants may be actively seeking work and taking the initiative for the referral. Subject to this qualification, it appears that the proportions of the three outcomes are as follows for the UI group:

FY 1974 EXPERIENCE OF ES APPLICANTS WHO ARE UI CLAIMANTS

Outcome	Number	Proportion
Placement	610,900	52.8%
Denial	61,000	5.3%
Continuation	485,507	41.9%

The Food Stamp Work Test

According to Federal Regulations,able-bodied food stamp recipients between the ages of 18 and 65 who are not in school, caring for small children or who are otherwise exempt, must register with ES for possible placement in a job. This regulation is accomplished by means of Form FNS-284 provided by the Federal Food and Nutrition Service. This form is similar to, but not as comprehensive as, the Form 511 used by ES and is used in lieu of the 511.

When the FNS-284 is received by ES, the individual is supposed to be considered a registered ES applicant, available for referral on the same basis as any other ES applicant. This situation, however, is not precisely the case. The FNS-284 is not as comprehensive as the ES-511 and is usually considered inadequate for purposes of referral in most ES offices. The response to this circumstance varied. In some areas (Seattle and Boise, for example) the food stamp applicant is automatically called in by ES for a supplementary interview to obtain more data for further referral activity. (By regulation, the food stamp applicant can be called in for any "reasonable purpose" to further placement.) The FNS-284 is then amended or a complete ES-511 is filled out. In other offices, a call-in for supplementary interview is not automatic. Rather, the FNS-284's are scanned and only those showing potential promise for placement are called in. This latter approach appears to be more common in some of the smaller local offices (at least in Washington and Idaho) where the interviewers tend to have a more comprehensive view of local placement possibilities.

The work test itself can occur at any of several points, beginning with the initial interview, if one is requested. If the individual fails to respond to the initial request (or in some cases to a second request), this fact is reported to the food stamp issuing agency and is considered grounds for termination of food stamps or denial upon reapplication. If the individual responds to the call-in but then refuses referral or placement, these "negative referrals" also are reported. Finally, if the individual is placed, this too is reported, along with data on the nature of the placement and the wage paid.

A potentially serious problem relating to the effectiveness of the food stamp work test was discovered in our discussions with ES personnel in Washington and Idaho. As in the case of the UI work test, applications are usually not referred until the walk-in trade has been accommodated. In addition, there appears to be a tendency for ES interviewers to look on food stamp registrants as applicants of last resort. This attitude arises out of a number of factors. Historically, food stamp applicants are more difficult to locate and contact for purposes of interviewing for referral. In addition, ES interviewers are generally of the opinion that the typical food stamp recipient is not interested in finding employment and will resist referral and placement. As a consequence, food stamp recipients are expensive to refer and place. Finally, there is some question among ES personnel as to the extent to which refusals to accept referrals or employment are actually used as grounds for reducing or revoking food stamp benefits.

Resources allocated to the food stamp work test are relatively easy to track, since services to food stamp recipients are budgeted separately. Examination of the data for two Region X states, Washington and Idaho, reveals that in these states, at least, fewer resources are expended per placement of food stamp applicants than for non-food stamp applicants.

In FY 1975, Washington averaged 12.1 manhours per non-food stamp placement and 6.5 manhours per food stamp placement. Idaho averaged 11.7 and 9.6 manhours, respectively. Interestingly, Idaho also had a much higher success ratio in food stamp placements, placing 38% of its food stamp applicants in FY 1975 as opposed to 17% in Washington. Part of Idaho's success, however, may be attributable to greater selectivity on the part of the food stamp issuing agency. Only 6% of the new applicants in Idaho were food stamp recipients, as opposed to 22% in Washington.

Activities constituting the ES contribution to the work test are reported in ESARS Tables 23 and 24, "Service to Food Stamp Applicants" and "Placements of Food Stamp Applicants." Table 23 includes data on the number of applicants served, referrals, placements and negative referrals. The last category is further subdivided into those failing to respond to call-in and other negative referrals. The last category is further subdivided into those failing to respond to call-in and other negative referrals. The data also are tabulated by demographic and other salient applicant characteristics. Table 24 includes data on the nature of placements, such as expected duration and wage category and are also broken down by applicants' characteristics.

These ESARS tables give us a good data base for determining the ES contribution to the work test. In order to determine the value of this activity, however, it is necessary to know the disposition of food stamp cases when negative referrals or placements are reported. This, unfortunately, is somewhat difficult to pin down. Negative referrals can have three outcomes: The applicant can have his food stamp allocation terminated, he can be denied food stamps upon his next application, or his allocation can be unaffected (at least temporarily). The most common situation appears to be denial upon reapplication, since many, if not most, food stamp issuing agencies required the able-bodied to reapply monthly. Although the Federal Food and Nutrition Service encourages issuing agencies to certify people for longer periods than one month at a time, monthly certification has been found to be the most practicable approach to take by most local offices. This approach has arisen primarily because alternation or termination of the certification due to a change in income or other circumstances is recorded as an "error" by the local office. Monthly certifications are the simplest way to avoid this.

Denials of new applications are reported monthly to the Food and Nutrition Service on Form FNS-285, but are not categorized by reasons for denial. All denials are simply based on failure to qualify. Thus, work test outcomes in this category are lumped together with other reasons for denial, such as having an income too high to qualify. Terminations for "failure to comply" are also reported and are meant to be a check on the extent to which ES is performing its function with regard to the work test. But because of the administrative technique used by most local offices, the actual numbers of such terminations reported are usually very small. In fact, at one local food stamp issuing agency visited in the State of Washington, this category had zero permanently typed in and was changed to a positive number "very infrequently." Even in the case when grounds for termination are found, termination may not occur if the individual requests a "fair hearing." Termination in this instance will only become effective if the hearing examiner finds the ground for termination valid, usually one or two months later.

Placements of food stamp beneficiaries can also have several outcomes. These consist of benefit termination, a reduction in benefits, denial upon reapplication, re-certification at a new food stamp level upon the reapplication, or no change in status. As might be expected, the principal effect appears to be on the disposition of cases upon reapplication. The individual is certified at a level appropriate to his income and family circumstances, or denied food stamps. In either case, these outcomes appear on the record as new certification or denial without being distinguished as due to placement by ES.

The result of the circumstances described above is unfortunate from several points of view. Both ES and food stamp personnel seem to feel that the work test accomplished very little. From the ES point of view, the food stamp issuing agencies appear to take little cognizance of ES reporting of negative referrals and placements. From the food stamp perspective, the records indicate few if any terminations or reductions in benefits as a result of ES activity. Individuals we have spoken to in both agencies seem to feel that the work test for food stamp applicants is of little value. Yet, at the local level, the impression gained is that ES was doing a good job within the constraints imposed by the current system. This unfortunate circumstance is compounded by the fact that the data as they are currently collected cannot provide any information to indicate how much effect the work test is actually having. It is highly probable that many of the denials for food stamp certification, or certifications at reduced levels, are due to ES work tests. But the current Food and Nutrition Service reporting system does not record failure to qualify or reductions in benefits due to ES efforts, or the value of either.

Public Assistance Work Tests

The Public Assistance Work Test is administered primarily through the WIN program and is geared to finding employment for adults receiving Aid to Families with Dependent Children (AFDC). The approach to the work test taken by this program differs from that of the food stamp program in a number of significant ways, particularly in the extent to which ES and welfare personnel work cooperatively. For example, WIN funded ES personnel are frequently "out-stationed" in welfare offices, especially in larger communities.

The role of these ES/WIN personnel is more comprehensive than that of the usual ES interviewer. When a new applicant for AFDC is first interviewed, an ES/WIN interviewer is usually involved in the process, primarily to assist the welfare case worker in determining the individual's potential employability and the type of employment he might be expected to obtain. If the individual is determined to be employable and there are no other reasons for exempting the individual (such as being the sole available parent of small children), he is enrolled in the WIN program. (In the case of needy fathers in households having two or more adults, enrollment is mandatory.)

Upon enrollment, the applicant is further interviewed by the ES/WIN interviewer and an ES-511 is filled out. The ES-511 is available to other ES interviewers, as well as ES/WIN personnel, and placement is then attempted on pretty much the same basis as for other ES applicants. In fact, if a potential opening is determined by ES interviewers other than those in WIN, they may call in the individual themselves for possible referral and placement, although WIN is usually notified.

The work test sometimes begins at the point of initial interview, since some AFDC applicants neglect to appear for the initial placement interview. In this instance, further attempts are made to arrange for an interview, including the use of registered mail. If the applicant still fails to arrive for an interview, his case is referred back to the welfare office for further action. One device employed there is to hold the recipient's check to force further interviews with the welfare case worker who then will counsel the applicant to seek ES assistance. If this effort fails, then termination is likely, although not necessary. The AFDC applicant is similarly liable for termination if he consistently refuses referral or acceptance of job offers. Again, the decision is made by the welfare agency upon notification by ES/WIN. If the individual is placed, welfare payments to the individual are adjusted according to his earnings, and if he remains employed for 90 days his case is closed out as a successful termination.

Recordkeeping on the disposition of welfare cases referred to ES is done both by ES and the welfare authorities. ES data are found in ESARS Tables 30-34, only described here, which include the following headings:

Table 30 - Selected WIN Activity by Characteristics of Registrants (Includes numbers of registrants, those who entered employment, those who were de-registered from AFDC due to finding employment, sanctioned; i.e. terminated for cause or off AFDC for other reasons)

Table 31 - Entrance to Employment by WIN Category (Includes entrance from jobsearch, orientation, OJT, etc)

Table 32 - Starting Wage by Charactersitic of WIN Registrants (Socioeconomic characteristics)

Table 34 - Occupational Category of Employment Entered by Characteristic of WIN Registrants (Similar to Table 33)

Data on the disposition of WIN cases from the local welfare agencies is reported to their respective state offices, who in turn report monthly state aggregates to the Director of the National Center for Social Statistics of the Social and Rehabilitative Services Division of HEW. This report, the WIN Monthly Program Activity Summary (Form SRS-NCSS-117), includes the number of cases taken off AFDC due to WIN, the total value of monthly checks being paid to these terminees, the number of cases on AFDC for which benefits have been reduced and the total monthly value of these savings. The report does not distinguish the causes of terminations or reductions, but ES data on numbers of placements make it possible at least to determine savings due to ES activities.

5.2 Other Enforcement Activities

Immigration Services

The primary role performed by the Employment Service in this activity is to ensure that immigrants do not take jobs which might otherwise be filled by unemployed Americans, and that they are paid a prevailing market wage for any job which they do fill. The actual analysis and approval of an application is performed at the Regional Office level. The role of the local office is to accept the application for immigrant employment and provide to the Regional Office both the application and all relevant information regarding the availability of qualified individuals in the labor market area and prevailing wages for the type of work which the immigrant would perform. In some cases, processing of the application is pro forma, since the immigrant's prospective employment falls into a specific labor shortage category, such as many of the health sciences. In other cases, determination can be quite difficult because the occupational coding used by the Employment Service may not be precise enough to determine adequately that there are not individuals available to fill the job. Another difficulty, of course, is that ES registrants do not encompass the universe of unemployed and are particularly underrepresented in many of the professional and technical occupations.

Accurate assessment of the nature of the benefits derived from this activity is difficult. On the one hand, it would appear that this function is extremely important to preserve jobs for American citizens. This view, however, only looks at one side of the equation. An immigrant who arrives in the United States with guaranteed employment at prevailing U.S. wages is also generating an income which he will spend on domestic goods and services. This consumption in turn creates employment for other American workers. It is not intended to suggest that the United States would want to pursue an open door immigration policy, since such a policy would itself create numerous social and economic problems associated with the rapid population growth that would undoubtedly ensue. Nevertheless, given that the U.S. already has an immigration quota which is presumably gauged to accommodate an orderly amount of immigration, it is not entirely clear what additional function is performed by the immigrant work test. In any event, this activity is not a major concern since the various states appear to allocate only 0.1% to 0.2% of their budgets to it.

Farm Worker Housing and Wage Standards

These activities are directed primarily to two situations: the importation of selected categories of agricultural workers from abroad (which today are mainly Basque sheepherders), and the interstate recruitment of groups of migrant farmworkers. In both cases, the employer has to provide housing which meets DOL standards and pay prevailing local wages. In the event that these standards are not met, the immigration permit will not be issued in the case of imported workers, or ES will refuse to act as contracting agent in the case of interstate placement.

The actual benefits realized by these activities are again somewhat dubious. In the case of imported farm workers, the principal beneficiaries appear to be the immigrants, since in many cases, such as sheepherding, there is virgually no domestic competition for the job. In the case of domestic migrant workers, it appears that DOL is forcing a particular form of employee compensation on both the employer and employee. In principle, at least, farmers are offering migrant workers a total compensation package consisting of a cash wage, housing and other amenities. To the extent that migrant workers prefer cash to better housing, one would predict that housing would be of low quality. To the extent that better housing is preferred, those farmers who offered it would presumably be able to hire farm workers on the best terms and better housing would prevail.

It is interesting to note in this context that interstate recruitment of farm workers has been for some time a declining ES activity and is now handled primarily by private contractors. Some ES personnel suspect, although they cannot confirm, that the tightening of ES standards is at least partially responsible for the phenomenon.

In any event, as in the case of immigration services, this enforcement activity is now a relatively insignificant proportion of the ES budget.

Worker Complaints

This activity is largely one of reporting to other agencies. Because of its visibility and accessibility, ES is a logical place for a worker to go when he feels he has been slighted with respect to wage payment, overtime payment, working conditions, or has been the victim of discrimination. An ES local office received the complaint, determines the most relevant State or Federal agency to act on it and then forward it. There is usually some follow-up procedure by which ES determines subsequently what, if any, action is being taken and notifies the worker. In some cases, ES personnel may also contact the employer informally before forwarding the complaint to see if some resolution can be made to eliminate the need for further action.

On the whole, this activity is essentially a combination of public relations and public services and is undoubtedly of value, both in terms of ES's public image and in reducing the costs to workers in determining the appropriate agency for a valid complaint. Precise assessment of the value of the benefits is difficult, but at the same time its cost appears to be minor (1-2% of a local office budget).

5.3 Enforcement Benefits

Work test activities appear to be the most significant of the enforcement activities both in terms of resources used and potential economic value of outcomes. Conceptually, the direct contribution of all work test activities to value is the same: placement outcomes generate both an output (earned income) effect and a transfer income effect (claims savings); claim denial outcomes generate just the transfer saving as a direct effect unless the individual denied returns to work as a result of the denial. As discussed in Chapter 4, the transfer effect does not represent an increase in the net flow of goods and services available to society, since the claim savings are just offset by the loss in claim income of the former claimant. Nevertheless, from the point of view of fund managers and valid beneficiaries of income maintenance programs, the claim savings is a real gain. As discussed in Appendix E, very fragmentary evidence is available on what happens to individuals after denial, but this evidence suggests that they remain unemployed. Hence, the output effect does not appear to be great.

In addition to the direct benefits of work test activities, there is conceptually a substantial indirect effect. Since the existence of a work test creates a significant probability that invalid claimants will be detected, it reduces the net yield which can be expected from invalid claims. Compared with the complete absence of enforcement, then, work test activity is likely to have a deterrent value as well as the direct claim detection outcomes. To the extent that potential invalid claimants represent a significant proportion of potential UI recipients, there is a saving not only of claims processing but potential claim liabilities. In addition, to the extent that the deterrent effect discourages potential claimants from leaving jobs, or encourages them to take them, there is an output effect.

The deterrent effect of all policing activities and conditions for claim validation has been estimated by Holen and Horowitz (1974), who found that denial of UI claims for all reasons deters an additional two claimants from making application in the first place. In order to isolate the effect of the ES work test, we performed cross-sectional multivariate regression analysis to test the effect of claim denials for refusal of suitable work on total weeks of claims paid out by UI. The conceptual model tested, data sources, and findings are reported in Appendix D. Our results suggest that the deterrent effect of denials for refusal of suitable work is unambiguous. By shortening the liability for current claimants, other individuals are discouraged from filing (invalid) claims at all. Our estimates imply that denial for refusal to work reduces total claim liabilities by around 150 weeks. On the average, the maximum liability per individual denied is about 24 weeks. Assuming that invalid claimants will try to exhaust the maximum claim liability, we have used this figure as an estimate of the direct effect of a denial on total weeks of claim liability to obtain a conservative estimate of the deterrent effect of 126 weeks. The ratio of the deterrent impact to the direct denial impact is 126 to 24, or about 5 to 1.

5.4 A Model of the Value of Work Test Outputs

Conceptually, work tests may generate output and transfer effects. As mentioned above, and in Appendix E, evidence on the output effects for individuals denied claims is fragmentary, but it suggests that the output effect is not large. For this reason, in adding enforcement benefits to our model of ES productivity we focus only on the transfer effects. We have distinguished direct and deterrent effects as the components of work test transfer savings value. Our model may thus be described as follows:

Total transfer savings = Direct Value + Deterrent Value

Direct value = Weekly claim value for claimant (W_u-W_a)

Deterrent value = Weekly claim value for individual deterred (W_u),

where W_u represents the number of weeks of duration an invalid claimant would use if not detected and W_a is his actual claim duration to detection.

While it should be possible to obtain from detailed state UI records data by state on the actual claim experience of denials (claim value and duration) such an effort is beyond the scope of this study. Data on total UI claims denials due to work test activity are available, as are data on average claim values, average claim durations and claim liabilities. These data enable illustration of the direct value of the ES work test in terms of UI claims savings. Our results on the deterrent effects on UI claimants enabled estimation of the deterrent effects. Data problems for food stamp recipients and the fact that Food Stamp and WIN program activities are not carried out on Title III funds argued against making similar estimates for these two programs.

We have used each state's average weekly benefit payment as the value of the weekly denial benefits for that state. The data are not sufficient to determine actual claim durations for denials so we have made the following assumptions: (1) The entitled duration for claimants who are later detected is the same as the state maximum; (2) All undetected invalid claims go to exhaustion; (3) Invalid claiments who are detected are only detected on average after the average claim duration for the state. Hence, we have used the state maximum duration as an estimate of W_u and the state average actual claim duration as an estimate of W_a. Although some invalid claiments may be entitled to less than the maximum benefits, we feel use of the average duration may be an overestimate of the actual for invalid claimants. If so, the savings estimate is probably conservative.

Table 5.1 shows the direct, deterrent and total UI claims savings due to ES work tests in millions of dollars. For each state, the total number of claims denied because of refusal of suitable work is multiplied by the state's average weekly claim payment times the duration of saving as defined above.

In order to retain a conservative estimate of the deterrent value, the calculations employ a UI deterrent multiple of 3.75 times the direct claims savings attributable to the UI Work Test calculated in Column (1) of Table 5.1. This figure was more or less arbitrarily arrived at as the average of our finding and the rate reported by Holen and Horowitz.

UI data were obtained from the monthly publication UI Statistics. UI denials due to refusal of suitable work were taken from Table 13 of the October 1974 issue, Denials Under State Programs by Issue, July 1973 - June 1974. The average value of weekly UI payments and the durations of benefits were taken from Table 8, Selected Unemployment Insurance Activities Under State Programs, July 1973 - June 1974. While the estimates in Table 5.1 are intended only to be illustrative, we think it probable that the err be on the low side, since we have omitted food stamp and welfare work tests and have used a conservative approach to measuring UI claim savings. Hence, if anything, they should be considered lower bound estimates of the transfer savings generated by ES work tests.

Savings in food stamp assistance attributable to the ES conceptually could be evaluated in much the same manner as the UI benefits. While the Food Stamp Program benefits have not been included in the estimations derived in Table 8, data recently made available to us by the Food and Nutrition Service of the Department of Agriculture suggests that the benefits indeed may be substantial. The data for FY 1974 are shown in Table 5.2. As our discussion in Section 2.4.2 and Table 5.2 indicate, there evidently is considerable variation among states in administering and enforcing the ES work test for food stamp recipients (Washington, Wyoming, Mass. and Idaho vis-a-vis the benefit reductions and terminations shown for other states).

TABLE 5.1

ESTIMATION OF ES ENFORCEMENT VALUES

(Millions of Dollars)

States*	(1) UI Work Test Denials	(2) Work Test Deterrent Value	(3) Total Enforcement Activity Benefits
Alabama	.193	.724	.917
Alaska	.067	.251	.318
Arizona	.174	.652	.826
Arkansas	.198	.742	.940
California	4.332	16.245	20.577
Colorado	.221	.828	1.049
Connecticut	2.365	8.869	11.234
District of Columbia	.040	.150	.190
Florida	.384	1.440	1.824
Georgia	.059	.221	.280
Hawaii	.396	1.485	1.881
Idaho	.290	1.087	1.377
Illinois	1.321	4.953	6.274
Indiana	.806	3.023	3.829
Iowa	.222	.833	1.055
Kansas	.439	1.646	2.085
Kentucky	.374	1.403	1.777
Maine	.463	1.736	2.199
Maryland	3.086	11.572	14.658
Massachusetts	.670	2.512	3.182
Michigan	3.504	13.140	16.644
Minnesota	.682	2.557	3.239
Mississippi	.287	1.076	1.363
Missouri	.592	2.220	2.812
Montana	.036	.135	.171
Nebraska	.087	.327	.414
New Hampshire	.338	1.267	1.605
New Jersey	1.315	4.931	6.246
New York	5.302	19.883	25.185
North Carolina	1.336	5.008	6.344
North Dakota	.050	.189	.239
Ohio	1.778	6.665	8.443
Oklahoma	.143	.538	.681
Oregon	.371	1.391	1.762
Pennsylvania	4.706	17.648	22.354
South Carolina	.506	1.897	2.403
South Dakota	.002	.007	.009
Texas	.779	2.921	3.700
Utah	.614	2.302	2.916
Vermont	.106	.398	.504
Virginia	.533	1.999	2.532
Washington	.273	1.024	1.297
West Virginia	.176	.660	.836
Wisconsin	1.658	6.218	7.876
Wyoming	.005	.019	.024
Sub-Totals	41.279	154.792	196.071

* Missing States: Delaware, Louisiana, Nevada, New Mexico, Puerto Rico, Rhode Island, Tennessee, Virgin Islands, Guam

TABLE 5.2

PRELIMINARY REPORT
Cumulative through June - FY - 74

FOOD STAMP PROGRAM
JULY 1973 THROUGH JUNE 1974
SUMMARY OF WORK REGISTRATION ACTIVITY

		Monthly Benefits Reduced and Terminated							
		Accepted Employment				Failure to Comply		Grant Total	
		Reduced		Terminated		Terminated			
STATES REPORTING	NUMBER PERSONS REGISTERED	NUMBER HOUSEHOLDS	AMOUNT	NUMBER HOUSEHOLDS	AMOUNT	NUMBER HOUSEHOLDS	AMOUNT	NUMBER HOUSEHOLDS	AMOUNT
ALABAMA	22,488	180	$ 7,499.25	119	$ 9,520.50	539	$ 48,910.50	838	$ 65,930.25
ALASKA	13,935	24	1,011.00	44	6,149.00	5	368.00	73	7,528.00
ARIZONA	26,950	7	334.00	30	2,901.00	63	6,123.00	100	9,358.00
ARKANSAS	17,789	219	7,883.00	49	3,558.00	368	37,853.50	636	49,294.50
CALIFORNIA	234,756	1,250	37,053.50	2,455	142,565.55	4,792	263,352.44	8,527	443,271.49
COLORADO	25,941	656	36,453.75	342	23,047.50	4,439	333,448.50	5,437	392,949.75
CONNECTICUT	5,741	257	8,296.00	447	21,371.00	743	35,602.00	1,447	65,269.00
DELAWARE	173	7	427.00	4	283.00	10	933.00	21	1,643.00
DISTRICT OF COLUMBIA	4,895	131	4,627.00	380	26,017.00	800	65,567.50	1,311	96,211.50
FLORIDA	36,894	91	4,795.50	210	19,141.00	3,845	347,735.50	4,176	371,672.00
GEORGIA	14,178	308	11,365.00	72	5,974.00	680	62,512.00	1,060	79,851.00
HAWAII	9,319	27	354.00	664	47,[illegible].00	317	19,488.00	1,008	67,099.00
IDAHO	5,983	1	54.00	3	160.00	179	9,377.50	183	9,591.50
ILLINOIS	30,944	258	6,348.00	946	50,628.00	857	49,926.25	2,061	106,902.25
INDIANA	26,591	522	24,236.25	[illegible]	28,963.18	812	63,194.50	1,730	116,393.93
IOWA	13,170	392	15,549.50	[illegible]	70,117.50	279	21,866.00	1,532	107,533.00
KANSAS	2,052	237	7,053.00	[illegible]	27,768.00	352	22,016.25	1,016	56,842.25
KENTUCKY	58,825	557	34,190.00	[illegible]	41,377.00	2,041	188,510.75	3,062	264,077.75
LOUISIANA	45,736	99	3,757.66	[illegible]	2,309.00	93	8,984.50	225	15,051.16
MAINE	2,537	82	4,614.50	[illegible]	6,585.00	138	9,903.50	312	21,103.00

Table 5.2 (continued)

PRELIMINARY REPORT
Cumulative through June - FY - 74

		---Monthly Benefits Reduced and Terminated---							
		---Accepted Employment---				---Failure to Comply---		---Grand Total---	
		Reduced		Terminated		Terminated			
STATES REPORTING	NUMBER PERSONS REGISTERED	NUMBER HOUSEHOLDS	AMOUNT	NUMBER HOUSEHOLDS	AMOUNT	NUMBER HOUSEHOLDS	AMOUNT	NUMBER HOUSEHOLDS	AMOUNT
MARYLAND	9,613	75	$ 3,880.00	457	$ 40,420.38	455	$32,062.95	987	$76,363.33
MASSACHUSETTS	555	0	0.00	29	1,582.00	17	330.00	46	1,912.00
MICHIGAN	36,039	224	12,295.00	643	34,230.75	365	15,927.00	1,232	62,452.75
MINNESOTA	17,609	340	13,661.25	1,119	84,338.00	259	18,298.00	1,718	116,297.25
MISSISSIPPI	24,030	590	24,696.50	448	39,343.00	1,410	138,895.79	2,448	202,935.29
MISSOURI	23,100	1,315	63,437.00	101	7,113.00	200	14,233.00	1,616	84,783.00
MONTANA	6,324	113	3,487.25	63	5,026.00	17	1,160.00	193	9,673.25
NEBRASKA	4,610	127	6,020.50	295	15,569.75	753	38,817.55	1,175	60,407.80
NEVADA	3,391	7	348.00	10	643.00	428	31,334.00	445	32,325.00
NEW JERSEY	12,934	405	17,860.50	1,524	157,794.50	1,688	92,354.50	3,617	268,009.50
NEW MEXICO	29,517	107	4,354.00	126	11,135.50	105	5,392.00	338	23,871.50
NEW YORK	50,496	2,182	54,145.10	1,366	88,060.07	3,686	175,843.56	7,234	318,048.73
NORTH CAROLINA	16,253	181	6,554.00	112	8,779.00	684	66,189.50	977	81,522.50
NORTH DAKOTA	1,655	50	2,298.00	22	1,456.00	18	1,312.00	90	5,066.00
OHIO	52,856	318	16,514.50	4,171	200,057.09	593	28,112.81	5,082	244,684.40
OKLAHOMA	5,375	94	3,186.00	674	31,027.00	53	4,418.00	821	38,631.00
OREGON	77,657	230	5,590.50	322	20,322.50	100	6,332.00	652	32,245.00
PENNSYLVANIA	23,920	563	15,031.30	1,271	83,442.77	1,132	73,582.50	2,966	172,056.57
RHODE ISLAND	543	17	427.00	50	2,183.00	51	2,226.00	118	4,836.00
SOUTH CAROLINA	17,611	748	33,072.52	682	63,411.00	1,437	143,866.00	2,867	240,349.52
SOUTH DAKOTA	4,736	228	8,674.20	179	11,994.75	293	21,956.50	700	42,625.45
TENNESSEE	44,083	557	26,233.50	321	27,500.00	1,855	170,034.41	2,733	223,767.91
TEXAS	89,924	473	22,339.40	143	12,673.95	494	48,442.00	1,110	83,455.35
UTAH	4,209	49	1,802.00	390	22,497.00	463	22,709.00	902	47,008.00
VERMONT	5,216	64	1,392.00	1,304	66,462.00	84	4,750.00	1,452	72,604.00
VIRGINIA	11,871	190	8,013.50	164	13,457.50	361	32,734.00	715	54,205.00
WASHINGTON	91,130	1	30.00	2	116.00	7	650.00	10	824.00
WEST VIRGINIA	34,696	51	2,933.00	218	21,750.00	1,274	124,206.00	1,543	148,889.00
WISCONSIN	9,733	465	21,792.10	1,255	110,332.75	332	26,014.75	2,052	158,139.60
WYOMING	1,926	1	40.50	2	64.00	0	0.00	3	104.50
TOTAL (50)	1,333,791	15,090	596,446.03	25,533	1,717,772.49	40,006	2,941,647.01	80,929	5,255,865.53

6.0 THE SOCIAL PRODUCTIVITY OF THE EMPLOYMENT SERVICE

Our analysis of Employment Service activities has led us to the conclusion that a model of ES social productivity incorporating output and transfer effects of labor exchange and UI work test activities of the ES would capture 90-95% of the value of output effects and transfer savings generated by ES Title III funds. Available ES and UI data, supplemented by parametric estimates from prior research anecdotal evidence and results conducted in the course of the present project were used to illustrate these components by state on a fiscal 1974 basis. In this chapter, these results were combined with cost data to illustrate average ES social productivity by state and to analyze the sensitivity of the estimates to uncertainty about some of the data and evidence used. Estimates were prepared by applying the computer simulation model documented in Appendix F to data sources identified in previous chapters described in Appendices F and G. Sensitivity analysis summarized below is described more fully in Appendix H.

Our general assessment is that while the productivity estimates are subject to a wide range of uncertainty, they do provide reasonable consistent rankings across states and suggest that the model has possibilities for dramatic improvements in allocating funds to states. Also, as state of the art estimates of net economic impact they provide a stronger argument for overall program funding levels -- both for the ES as a whole and for the labor exchange and enforcement activities considered separately -- than has been previously available. The simulation model used in deriving these estimates could be modified as required and applied to nationally valid evidence on all the component measures of the model as it becomes available, thus serving as a tool for narrowing the range of uncertainty around our estimates in a quick and convenient manner.

6.1 Illustrative Mid-Range Estimates of ES Social Productivity, 1974

In Chapters 4.0 and 5.0, we presented illustrative estimates of the output and transfer values of what, in our judgment, represent the most significant ES labor exchange and enforcement outputs. Table 6.1 combines these results in two ways. Column (1) shows total output values from Table 4.1; Column (2) shows total transfer values from Tables 4.1 and 5.1; Column (3) shows the sum of output and transfer values. Additivity of values shown in Columns (1) and (2) is subject to the same qualifications discussed in Chapter 4.0. Column (4) contains the FY 1974 Title III ES appropriations by state, and Columns (5) and (6) contain benefit cost ratios for output values alone and total values, respectively.

The average "return" ratio (social values/costs) for all states is 1.82. It is also interesting to note that when pure output effects alone are considered, the productivity ratio for all states is 1.16, and is greater than one for all but 17 states. In other words, the system as a whole appears to justify its costs in terms of total social output alone. Although Table 6.1 implies that total returns for the system appear to have more than paid for estimated costs in FY 1974, we reiterate that these computations are illustrative only and subject to considerable uncertainty with respect to accuracy or national validity of source data.

TABLE 6.1

ESTIMATION OF EMPLOYMENT SERVICE PRODUCTIVITY BY STATE
FISCAL YEAR 1974

($ Millions)

	(1) Output Effects	(2) Transfer Effects	(3) Total	(4) Title III Appropriations	(5) Output Productivity[a]	(6) Total Productivity[b]
Alabama	6.946	2.118	9.064	6.201	1.12	1.46
Alaska	2.827	.573	3.400	1.906	1.48	1.78
Arizona	6.704	1.871	8.565	5.274	0.78	1.62
Arkansas	8.233	1.436	9.669	5.177	1.59	1.87
California	48.481	35.072	83.554	41.160	1.18	2.03
Colorado	5.649	1.707	7.356	5.829	0.97	1.26
Connecticut	3.552	12.470	16.022	5.047	0.70	3.17
Dist. of Columbia	9.592	.451	10.042	4.812	1.99	2.09
Florida	15.759	2.703	18.463	11.182	1.41	1.65
Georgia	9.629	1.189	10.819	7.003	1.37	1.54
Hawaii	1.866	2.468	4.332	2.172	0.86	1.99
Idaho	3.316	1.951	5.268	2.797	1.19	1.88
Illinois	33.356	8.774	42.129	19.722	1.69	2.14
Indiana	12.507	5.424	17.932	7.980	1.57	2.25
Iowa	8.581	2.474	11.056	5.422	1.58	2.04
Kansas	4.495	2.985	7.481	4.890	0.92	1.53
Kentucky	7.077	2.482	9.560	4.445	1.59	2.15
Maine	1.627	2.716	4.342	2.218	0.73	1.96
Maryland	2.063	15.190	17.254	3.894	0.59	4.43
Massachusetts	11.683	4.529	16.211	10.145	1/15	1.60
Michigan	13.957	19.227	33.185	17.175	0.81	1.93
Minnesota	6.789	4.865	11.634	7.628	0.88	1.53
Mississippi	8.884	1.930	10.814	5.002	1.77	2.16
Missouri	13.454	5.026	18.491	10.498	1.28	1.76
Montana	3.422	.739	4.162	2.104	1.63	1.98
Nebraska	4.744	1.017	5.760	3.625	1.31	1.59

[a] Column (1) ÷ Column (4)

[b] Column (3) ÷ Column (4)

TABLE 6.1 (Continued)

	(1) Output Effects	(2) Transfer Effects	(3) Total	(4) Title III Appropriations	(5) Output Productivity[a]	(6) Total Productivity[b]
New Hampshire	1.096	1.871	2.967	1.385	0.79	2.14
New Jersey	12.149	8.393	20.542	13.587	0.89	1.51
New York	57.637	29.489	87.126	55.078	1.05	1.58
North Carolina	8.770	6.678	15.448	8.649	1.01	1.79
North Dakota	3.086	.573	3.659	2.384	1.29	1.53
Ohio	10.571	11.345	21.916	15.737	0.67	1.39
Oklahoma	9.509	1.470	10.979	7.270	1.31	1.51
Oregon	7.025	2.697	9.722	5.499	1.28	1.77
Pennsylvania	18.148	26.924	45.072	24.771	0.73	1.82
South Carolina	5.324	3.644	8.968	4.681	1.14	1.92
South Dakota	2.354	.323	2.677	2.384	0.98	1.12
Texas	30.288	10.254	40.542	25.627	1.18	1.58
Utah	4.945	4.055	9.000	5.013	0.99	1.80
Vermont	1.027	.983	2.010	1.383	0.74	1.45
Virginia	5.364	3.216	8.580	5.971	0.90	1.44
Washington	10.927	2.305	13.232	6.487	1.68	2.04
West Virginia	3.643	1.279	4.922	2.990	1.22	1.65
Wisconsin	18.004	9.299	27.303	8.616	2.09	3.17
Wyoming	1.907	.200	2.107	1.328	1.44	1.59
Sub-Totals	466.947	266.393	733.340	402.148	1.16	1.82

Missing States: Delaware, Louisiana, Nevada, New Mexico, Puerto Rico, Rhode Island, Tennessee, Virgin Islands, Guam.

[a] Column (1) ÷ Column (4)

[b] Column (3) ÷ Column (4)

6.2 Sources of Uncertainty

As noted in Chapters 4.0 and 5.0, our estimates of the value of ES outputs included several factors based on proxy approaches, anecdotal evidence, or evidence from research findings which may not be considered applicable to all states. Outstanding questions relate to the following dimensions:

- Actual ES job placement durations and wages.
- Alternative (non-ES) job opportunities (wages and duration)
- Search cost savings for both ES and non-ES users.
- Indirect placement rates.
- Actual claims savings by placement or detection.
- Invalid claim detection probabilities and deterrent effects.

All of these factors contribute some uncertainty to our output value and productivity estimates.

In our judgment, the most difficult questions remain in the labor exchange valuation area. One issue concerns the estimation of the hypothetical alternative job opportunity available to any individual who uses ES. This component is a major element in measuring the value of placements and appears to us to be the most important question for empirical research. The second issue is search cost savings. The evidence on the impact of ES on search duration is conflicting and our estimates represent findings from a relatively small sample of data.

Concerning direct placement values, duration and wage data are estimates from job orders and are poor but could be improved by ES follow-up on actual placements. Our estimate of indirect placements was based on the experience in a single state and is not likely to be generally valid. Claims data were not direct observations but estimates based on average claim duration and value experience from states. Improved data on claim dimensions would also be required to refine our estimates of enforcement deterrent effects.

Our approaches to obtaining information from non-ES job opportunities and measuring dimensions of UI claims have been described in Chapters 4.0 and 5.0. Neither of these approaches have been submitted to statistical hypothesis testing, and we have no way of assessing the uncertainty generated by them. Estimates from the other four factors, however, were obtained in a manner which allowed us to identify the range of uncertainty associated with them. For the ES job duration, search cost savings, indirect placement and deterrent effect parameters we were able to identify high, low and mid range estimates of factor values. Estimates are derived in Appendix G and are displayed, together with the ratio of the range to midpoint estimates, in Table 6.2.

The estimates of the range of uncertainty surrounding these factors permitted us to investigate the sensitivity of both computed productivity

TABLE 6.2

PARAMETER RANGES

Parameter	Mid	Low	High	Range	R/M
Expected duration in hours of 1 - 3 day placements	16	8	24	16	1.0
Expected duration in hours of 4 - 150 day placements	385	285	565	280	.73
Expected duration in hours of > 150 day placements	385	285	565	280	.73
Search time savings, in hours	22.50	0	45	45	2.0
Indirect placement rate (as % of non-placed referrals)	0.10	0.5	0.15	.1	1.0
Deterrent factor for work tests	3.75	2.0	5	3	0.8

estimates and state productivity rankings to uncertainty. Simulations of productivity for each state were performed using the computer program developed for this purpose (see Appendix F) and data described in Chapters 3.0 and 5.0. Productivity estimates were computed and values and rankings compared based on the high, low and mid-range values of the estimated factors.

Productivity was estimated both in total and in terms of output and transfer effects (claims savings) separately, and both with and without target group priority weights. Since both these effects are generated by activities which are essentially the same in content but have different objectives, an attempt was made to evaluate the activities separately. This required an estimate of the costs of each type of activity, which was obtained by a heroic assumption that costs were incurred in proportion to the efforts of placement personnel spent on referrals of non-UI claimants and UI claimants. We termed the resulting partial benefit-cost ratios "labor exchange" and "enforcement" productivity estimates, respectively. Priority weights for target groups were obtained from the FY 1976 BPF formula. Weights are: 5 (veterans), 3 (handicapped, minorities, women, older workers, poor, UI claimants), 2 (youth), and 1 (all other). The following paragraphs summarize results of simulations with respect to these productivity estimates and rankings of states.

6.3 Effects of Uncertainty on Productivity Estimates

We observed above that the mid-range average rate of return for the 45 state totals is 1.82. Table 6.3 shows that this estimate ranges from 0.9 to 2.82. This observation suggests that even using the most conservative assumptions with respect to all the parameters identified above, the Employment Service as a whole appears to come close to paying for its current estimated costs in terms of both output effects and transfer savings. This conclusion masks variations over states. All states have ratios greater than 1.0 (alternatively, a positive net impact) with the mid-range and high range assumptions.* But using the low range (most conservative) assumptions, only 18 out of the 45 states have positive rates of return.

The results vary by activity. For the enforcement activity, the results imply a high rate of return no matter what the assumptions with respect to the quality parameters. The low range estimate for the aggregate is 2.11, and all but three states have rates of return greater than one of the low range estimates.** In fact, even with no deterrent effect, the rate of return is over 1 for all but nine states.

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*See Appendix H-3 and Tables 3.1-3.4.
**Appendix H-3, p. C-4, under "Enforcement Productivity, Total"

TABLE 6.3

Estimated Productivity, Total (Sum of Output and Transfer Effects) and by Activity, 45 States

	Mid Range	High Range	Low Range
All Individuals Weighted Equally			
Total	1.82	2.82	0.91
Labor Exchange	1.50	2.63	0.57
Enforcement	2.90	3.39	2.11
Labor Exchange Output Values Priority Weighted			
Total	4.08	6.75	1.78
Labor Exchange	4.43	7.72	1.68

TABLE 6.4

CORRELATIONS* OF HIGH AND LOW WITH MID-RANGE ESTIMATES, 45 STATES

	High Range	Low Range
	Unweighted Values	
Total	.96	.89
Labor Exchange	.995	.85
Enforcement	.999	.999
	Weighted Values	
Total	.96	.88
Labor Exchange	.994	.84

*Correlations > .30 are significant at the 95% level.

For the labor exchange activity, the aggregate estimates range from .57 to 2.63 with a mid-point of 1.50. Using moderate or liberal assumptions with respect to simulation parameter values, labor exchange activities appear to be generating a positive net economic impact in terms of output effects. On a state by state basis, the high range parameter assumptions produce labor exchange rates of return greater than 1 for all states, and the mid-range values produce rates of return less than 1 for three states. On the other hand, low range results are greater than unity for only three states. In other words, it appears that the productivity of enforcement activities greatly exceeds that of labor exchange activities and enforcement appears to be the main reason for the generally positive character of the aggregate results over all assumption sets.

6.4 Effects of Uncertainty on Rankings Across States

Productivity estimates under different assumptions were correlated both with each other and with the scores generated by the 1976 BPF formula using FY 1974 data. From these correlations, we derived implications concerning the sensitivity of relative estimates across states with respect to parameter changes, addition of priority weights, and the relationships between our rankings and those produced by the BPF.

The range of uncertainty around the simulation parameter values clearly generates a wide spread in absolute values of productivity estimates. On the other hand, the measures are fairly highly correlated across states, both in an absolute and a rank order sense. Table 6.4 indicates that the estimates, not withstanding their absolute limitations, may be promising as an index of relative efficiency across states. When state rankings, shown in Table 6.5, are compared under each assumption set, the high range ranks show only three states which have moved ten points or more. The range of uncertainty has virtually no significant effect on the correlations of enforcement estimates. The major impact of parameter changes comes through the labor exchange results. The effect of uncertainty in the simulation parameters affecting labor exchange estimates is magnified by the priority weights. Although this sensitivity of ranking to parameter ranges means that application of the model to data used here do not provide a completely robust index of relative economic efficiency, we feel it is likely that evidence which would permit these uncertainty ranges to be narrowed somewhat around these simulation parameter values would yield a very useful index of relative efficiency.

6.5 Implications for Budget Allocations

ES funds are allocated in part on the basis of state scores estimated in the Balanced Placement Formula (BPF). These scores are interpreted as a relative productivity index. In order to test the relationship between the BPF and our methodology, we have correlated our mid-range scores with the 1974 BPF scores data. Table 6.6 shows the data used in the correlations and Table 6.7 shows the correlation results. (Note that Alaska was excluded from the correlation since no BPF score was computed for Alaska.)

TABLE 6.5

RANKS OF STATES BY TOTAL FACTOR PRODUCTIVITY UNDER MID-RANGE, HIGH RANGE, AND LOW RANGE ASSUMPTIONS

State	Rank	Mid-Range Est.	Rank	High Range Est.	Rank	Low Range Est.
Alabama	40	1.46	38	2.33	34	0.73
Alaska	23	1.78	23	2.74	15	1.06
Arizona	28	1.62	26	2.70	39	0.65
Arkansas	19	1.87	12	3.15	33	0.73
California	12	2.03	14	2.99	7	1.19
Colorado	44	1.26	42	2.14	44	0.44
Connecticut	3	3.17	3	4.25	2	1.99
District of Columbia	9	2.09	6	3.40	13	1.08
Florida	27	1.65	19	2.79	40	0.65
Georgia	34	1.54	33	2.54	35	0.72
Hawaii	13	1.99	18	2.79	4	1.27
Idaho	18	1.88	15	2.88	19	0.99
Illinois	7	2.14	7	3.39	11	1.10
Indiana	4	2.25	5	3.47	5	1.22
Iowa	10	2.04	10	3.32	23	0.89
Kansas	35	1.53	37	2.37	32	0.74
Kentucky	6	2.15	8	3.37	9	1.11
Maine	15	1.96	22	2.75	8	1.16
Maryland	1	4.43	1	5.82	1	2.71
Massachusetts	29	1.60	35	2.52	28	0.80
Michigan	16	1.93	20	2.77	10	1.12
Minnesota	36	1.53	39	2.30	27	0.82
Mississippi	5	2.16	4	3.52	16	1.00
Missouti	25	1.76	25	2.72	20	0.96
Montana	14	1.98	11	3.15	17	1.00
Nebraska	30	1.59	28	2.62	38	0.69
New Hampshire	8	2.14	13	3.06	6	1.21
New Jersey	38	1.51	40	2.29	29	0.79
New York	33	1.58	32	2.57	31	0.64
North Carolina	22	1.79	21	2.77	24	0.85
North Dakota	37	1.53	36	2.51	37	0.70
Ohio	43	1.39	44	2.05	31	0.77
Oklahoma	39	1.51	29	2.61	43	0.51
Oregon	24	1.77	17	2.82	26	0.83
Pennsylvania	20	1.82	30	2.59	14	1.06
South Carolina	17	1.92	16	2.86	12	1.09
South Dakota	45	1.12	45	1.94	45	0.38
Texas	32	1.58	34	2.53	30	0.77
Utah	21	1.80	27	2.67	18	1.00
Vermont	41	1.45	43	2.09	22	0.89
Virginia	42	1.44	41	2.22	36	0.71
Washington	11	2.04	9	3.36	21	0.90
West Virginia	26	1.65	31	2.59	25	0.84
Wisconsin	2	3.17	2	4.98	3	1.53
Wyoming	31	1.59	24	2.74	42	0.56
Total for U.S.		1.82		2.82		0.91

TABLE 6.6

FY 1976 BPF AND PRODUCTIVITY SCORES

	BPFSCORE a	OUTPUT PRODUCTIVITY b	TOTAL PRODUCTIVITY b
1. CONN	77.943	.70000	3.1700
2. MAINE	101.25	.73000	1.9600
3. MASS	87.311	1.1500	1.6000
4. N.H.	92.970	.79000	2.1400
5. VERMONT	94.413	.74000	1.4500
6. N.JERSEY	71.657	.89000	1.5100
7. N.Y.	84.423	1.0500	1.5800
8. D.C.	98.154	1.9900	2.0900
9. MD	84.771	.59000	4.4300
10. PA	103.35	.73000	1.8200
11. VA	113.53	.90000	1.4400
12. W. VA	98.283	1.2200	1.6500
13. ALA	105.68	1.1200	1.4600
14. FLA	107.10	1.4100	1.6500
15. GA	90.026	1.3700	1.5400
16. KY	107.43	1.5900	2.1500
17. MISS	152.19	1.7700	2.1600
18. N.C.	97.867	1.0100	1.7900
19. S.C.	100.52	1.1400	1.9200
20. ILL.	77.140	1.6900	2.1400
21. IND.	103.21	1.5700	2.2500
22. MICH	68.043	.81000	1.9300
23. MIN.	102.02	.88000	1.5300
24. OHIO	73.453	.67000	1.3900
25. WIS.	93.125	2.0900	3.1700
26. ARK	131.72	1.5900	1.8700
27. OKLA	123.82	1.3100	1.5100
28. TEXAS	120.11	1.1800	1.5800
29. IOWA	142.52	1.5800	2.0400
30. KANS.	108.83	.92000	1.5300
31. MO.	110.31	1.2800	1.7600
32. NEB.	126.92	1.3100	1.5900
33. COLO	103.02	.97000	1.2600
34. MONT	144.88	1.6300	1.9800
35. N. DAK.	145.98	1.2900	1.5300
36. S. DAK.	143.44	.98000	1.1200
37. UTAH	136.07	.99000	1.8000
38. WYO	153.32	1.4400	1.5900
39. ARIZ	136.47	.78000	1.6200
40. CAL.	106.54	1.1800	2.0300
41. HI	87.045	.86000	1.9900
42. IDAHO	139.56	1.1900	1.8800
43. ORE	126.40	1.2800	1.7700
44. WASH	155.66	1.6800	2.0400

a. SOURCE: FY 1976 BPF WORKSHEETS
b. SOURCE: TABLE 6.1, COLUMNS (5) AND (6)

The correlation between the BPF score and the output productivity measure from Table 6.1 is positive and significantly different from zero at the 95% confidence level, although the correlation is weak (.38). The total productivity measure, which includes the transfer savings is negatively correlated with the BPF score, but the correlation is not statistically significant. Since the BPF explicitly excludes transfer savings of either placements or enforcement activities, the latter result is not surprising. On the other hand, the weak nature of the correlation between the output productivity measure and the BPF is a reflection of the fact that individual placement transactions in our measure are weighted to account for placement quality and economic conditions. Since the correlations between high, low and mid-range labor exchange productivity estimates shown in Table 6.4 are all relatively high, the weak correlation with the BPF is not, in our opinion, a result of uncertainty about source data at least to the extent we have been able to identify such uncertainty. We conclude, therefore, that application of our productivity model to more reliable placement value measures would yield demonstrable improvements over the BPF as an allocation tool, and that even the sample data used here may offer some real improvement.

6.6 Sensitivity of Productivity Estimates to Individual Factors

By altering simulation parameters one at a time, we were able to determine the effects of given changes in these parameters on our basic productivity estimates and on the relative rankings. We have analyzed these effects in two ways. First, the sensitivity of value estimates to a 10% change in the mid-range value of the parameter itself was examined. The result of this exercise gave us some evidence on the relative importance of each respective parameter in the estimation methodology. Second, we examined the effect of a 10% change in the range of each parameter. This result provided some indication of the impact on the value estimates of the uncertainty related to that parameter. Table 6.8-A shows the percentage change in the mid-range estimates which resulted from a 10% change in each of the parameters, taken one at a time. These results might be considered as an "elasticity" of the productivity estimates with respect to each parameter. The greatest elasticity is consistently identified with the search cost savings parameter. The job duration parameter, deterrent parameter, and indirect placement parameter follow in importance.

Multiplying these elasticities by the respective range-to-mid point ratios from Table 6.8-B gives us an estimate of the elasticity of productivity measures with respect to a change in the parameter equal to 10% of its range. Since the search cost savings parameter is bracketed by the highest relative range of uncertainty, this uncertainty magnifies the previous effect. On the other hand, since the range of uncertainty around the deterrence factor parameter is less than 1, it seems to reduce the importance of that factor. Based on these results, it appears that about 55% of the range of productivity estimates is accounted for by the range of uncertainty around the search cost parameter, 25% by the uncertainty with respect to the job duration factor, 15% by the deterrence parameter, and 5% by the indirect placement rate parameter. Thus, concerning these four parameters, the greatest returns to reducing uncertainty appear to come from studying the impact of the ES on search costs.

6.7 Labor Productivity Estimates

The most common partial productivity measure is that for labor. These estimates are shown by state in Table 6.9 using the mid-range total of benefit values. Also shown are the relative rankings by state for both "total return" and labor productivity ratios. Except for a few states (Alaska, Indiana, Iowa, Massachusetts, New Hampshire, New York, and Utah) the relative rankings are very similar. However, since labor costs and benefits account for 80% of Title III state appropriations, this result is not surprising.

TABLE 6.7

CORRELATION OF BPF AND PRODUCTIVITY SCORES

```
*CORR NEWBPFSCOR OUTPUTPRDY TOTALPRDY
DATA ONLY         1 -      44 FOR NEWBPFSCOR
DATA ONLY         1 -      44 FOR OUTPUTPRDY
DATA ONLY         1 -      44 FOR TOTALPRDY

                        *** CORRELATION MATRIX ***

PERIOD:           1     44

               NEWBPFSCOR      OUTPUTPRDY      TOTALPRDY

NEWBPFSCOR        1.0000
OUTPUTPRDY        .38279          1.0000
TOTALPRDY        -.21768          .89357E-01       1.0000

VALUES OF R > 0.30257 ARE SIGNIFICANT AT 95% LEVEL.

*STOP

DAMSEL EXIT AT 2015
OUTPUT COMPLETE
READY
LOGOFF



MAP001 LOGGED OFF AT 20:19:43 ON SEPTEMBER 16, 1976
```

TABLE 6.8

SENSITIVITY OF RATE OF RETURN ESTIMATES TO PARAMETER CHANGES

A. Percent Changes in Mid-range Estimates due to 10% Change in Parameter Value

	Duration	Search Cost	Indirect Plcmt.	Deterrent
		Unweighted Values		
Total	3.8	3.3	0.5	2.2
Labor Exchange	6.0	4.7	0.7	-
Enforcement	-	-	-	5.9
		Weighted Values		
Total	4.4	3.9	0.2	1.0
Labor Exchange	5.2	4.5	0.2	-

B. Percent Changes in Mid-range Estimates Due to Parameter Change Equal to 10% of Parameter Range

	Duration	Search Cost	Indirect Plcmt.	Deterrent
		Unweighted Values		
Total	2.98*	6.6	0.5	1.8
Labor Exchange	4.70	9.4	0.7	-
Enforcement	-	-	-	4.7
		Weighted Values		
Total	3.45	7.8	0.2	0.8
Labor Exchange	4.08	9.0	0.2	-

* Weighted average of short-term and long-term placements
range - midpoint = .784

TABLE 6.9

LABOR PRODUCTIVITY RATIOS (FY 1974)

State	($ M) Mid-Range Benefits	Manyears	Labor Productivity	Ranking by Labor Productivity	Ranking by Benefit/ Cost Ratio
Alabama	9.064	577	$ 15,700	40	44
Alaska	3.400	86	39,500	23	10
Arizona	8.565	277	30,900	28	26
Arkansas	9.669	291	33,200	19	22
California	83.554	2022	41,300	12	9
Colorado	7.356	281	26,180	44	37
Connecticut	16.022	281	57,000	2	3
Dist. of Columbia	10.042	191	52,600	9	4
Florida	18.463	671	27,500	26	34
Georgia	10.819	383	28,300	34	32
Hawaii	4.332	92	47,100	13	6
Idaho	5.268	148	35,600	18	20
Illinois	42.129	1014	41,600	8	8
Indiana	17.932	479	37,400	4	15
Iowa	11.056	345	32,100	11	24
Kansas	7.481	298	25,100	36	40
Kentucky	9.560	255	37,500	6	14
Maine	4.342	281	15,500	15	45
Maryland	17.254	188	91,800	1	1
Massachusetts	16.211	451	36,000	29	18
Michigan	33.185	864	38,400	16	13
Minnesota	11.634	452	25,700	37	39
Mississippi	10.814	279	38,800	5	12
Missouri	18.491	578	32,000	25	25
Montana	4.162	116	35,900	14	19
Nebraska	5.760	199	29,000	30	31
New Hampshire	2.967	82	36,200	7	17
New Jersey	20.542	689	29,800	38	28
New York	87.126	2214	39,400	32	11
North Carolina	15.448	514	30,100	22	27
North Dakota	3.659	124	29,500	35	29
Ohio	21.916	896	24,500	43	42
Oklahoma	10.979	391	28,100	39	33
Oregon	9.722	287	33,900	24	21
Pennsylvania	45.072	1220	36,900	20	16
South Carolina	8.968	278	32,300	17	23
South Dakota	2.677	107	25,000	45	41
Texas	40.542	1525	26,600	33	35
Utah	9.000	189	47,600	21	5
Vermont	2.010	69	29,100	41	30
Virginia	8.580	327	26,240	42	36
Washington	13.232	295	44,900	10	7
West Virginia	4.922	212	23,200	27	43
Wisconsin	27.303	411	66,400	3	2
Wyoming	2.107	81	26,000	31	38

7.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study has been to develop a conceptual framework for identifying, combining and weighting the diverse outputs of the United States Employment Service into an aggregate measure of social productivity. Toward this end we have developed a model which captures the most important components of the net impact of the ES system as a whole (including output and transfer effects). We have identified the most important ES "final" outputs and developed a model for evaluating and aggregating them. We have used evidence on the relative investments in activities and the relative importance of outputs to prioritize our analysis and have concluded that effective measures of the labor exchange and enforcement activities of ES would account for 95% of the value of all ES outputs. Accordingly, our conceptual development and numerical calculations focused on these two principal functions. To illustrate the model and focus future empirical issues we have employed the ESARS 2% sample for FY 1974, augmented by state level resource and enforcement data as well as various parametric and anecdotal estimates of other output dimensions.

Our conclusions are the following:

1. The highest payoff areas for further research related to productivity measurement are, in our judgment, validation of the alternative earnings opportunities available to individuals placed by the ES and the differential jobsearch costs of using the Employment Service.

2. Although highly speculative at this point, our illustrative estimates do suggest that the ES appears to be worth the cost of its current appropriation in terms of estimated "social returns." This conclusion is at least a focal point for subsequent empirical analysis.

3. The ES needs an economic benefit-cost oriented system for ongoing program evaluation and performance review to reward and ensure productive use of resources allocated to states.

4. Another valuable management system would appear to be a similarly oriented and ongoing service demand forecasting capability as a basis for planning and budgeting decisions and resource allocations.

7.1 Employment Service Productivity: High Payoff Areas for Research

Behind our first conclusion is the conviction that the problem of measuring ES productivity within reasonable bounds is tractable. In fact, it is a straightforward application of economic reasoning to data which are, in part, already assembled on a regular basis by the ES, supplemented by some critical evidence on the earnings impact of ES services. In our judgment, the fact that data produced regularly by the ES through its automated reporting system and through other sources enabled us to apply our model, even on a trial basis, which was an encouraging indication that the model has high practical value.

We have described in Chapter 6.0 the sensitivity analysis performed on the productivity estimates in order to determine the greatest sources of uncertainty and their impact on those estimates. This analysis enabled us to identify the major problems which should be addressed in order to refine the method of measurement of Employment Service productivity. In our judgment, there are three major problems. One problem is the need for better follow-up of job durations and wages by the ES itself. The Employment Service Automated Reporting System (ESARS) records expected duration and broad wage classes of all placements, but there is no follow-up beyond certification that the placement did in fact take place. In our opinion, follow-up could be performed either on a full or sample basis for intervals of up to six months which would vastly improve the information to be used for evaluating ES labor exchange activities. Even though ES jobs may last longer than six months, some cutoff point in attributing a job stream to ES assistance is probably warranted, after which the capabilities and characteristics of the individual himself predominate as the primary causes of job retention. The figure of six months is admittedly arbitrary but it also is a point at which most formal employee performance reviews both in the public and private sector take place. We recommend both that the mechanism and procedures for follow-up as well as the timing and limits to job follow-up be given further study in order to arrive at an effective program.

A second problem in further refinement of ES productivity estimation is measurement of alternative earnings available to individuals placed by the ES. It is only with this information, or a tested approach to approximating it, that a valid assessment of the incremental benefits attributable to the ES can be obtained. In our view, this is perhaps the most difficult problem to address. In our numerical illustrations, we have positioned a fairly simple relationship between alternative earnings and the relevant unemployment rate in order to estimate the likely alternatives available to ES placees. We feel that this approach is simplistic only in the application of unemployment rates to fairly aggregate data sources, but that the concept of using such probabilistic measures of finding earnings streams has some merit. There are, of course, other ways to obtain estimates of the alternative earnings to ES placements. Econometric modeling has been tried and offers some promise. The shortcoming of this approach is that estimation of such models requires several observations. This aspect requires that either econometric models for each local area must be developed, a huge effort, or models with general national validity. To the extent that the latter approach is taken, the cost of generality is a loss of specificity with respect to given local areas and a corresponding insensitivity of subsequent decisions to local problems. However, the loss of information may not be serious and well worth the cost savings.

The third major problem is the estimation of savings in search costs. Throughout the present research effort, we have looked upon search as an investment in self-improvement by members of the work force. The ES may be considered productive even if it offers individuals no improvement in actual job earnings streams if it obtains such jobs at reduced social search costs. Conversely, a positive payoff to apparent increased "unemployment" could be realized if the differential job income is sufficiently high. Uncertainty about the effect on ES productivity of search time proved to be the source of the widest variations in our sensitivity analysis of productivity estimates, accounting for nearly 55% of the variation. In our view, this finding makes the question of search time savings attributable to the ES a high priority research question. As indicated in Appendix G, this question has received some initial research attention. We recommend a concerted research effort to arrive at nationally valid results concerning this empirical issue. Presumably, a concerted effort to construct and estimate an econometric model of the earnings impact of placements and other ES services would capture the income differential from all sources, including both improved job income and reduced search costs.

In addition to these three major problems, there are a number of issues of lesser importance which should also be studied. One such issue is the question of indirect placements discussed in Chapters 3.0 and 4.0 and Appendix G. Broadly defined, this question covers the full range of ES services and treatments. In our judgment, this question could be dealt with by the type of follow-up program recommended above. In many states, the existence of automated unemployment insurance files for all covered employees is already being considered for this type of follow-up and applied in at least one state.

Finally, the question of deterrent effects of enforcement activities needs to be addressed. We have performed extensive analysis of very limitied data. The results suggest there is a high payoff in terms of invalid claims deterred by actual performance of the work test and subsequent enforcement. Data presently exist in disaggregated form which could be assembled to obtain more definitive results concerning this issue. For example, information on the actual duration of invalid claims, the actual value of invalid claims, the recorded potential and value of invalid claims, and the characteristics of both valid and invalid claimants would provide significant improvements in our understanding of this issue.

7.2 Preliminary Evidence on the Net Value of ES Outputs

Because of omissions from the ESARS 2% sample file, it was not possible to perform computations for the following: Delaware, Louisiana, Nevada, New Mexico, Puerto Rico, Rhode Island, or Tennessee. Hence, results and conclusions are applicable to the remaining 44 states and the District of Columbia. Our general assessment is that while the productivity estimates are subject to a range of uncertainty, they do provide reasonably consistent rankings across states and suggest possibilities for dramatic improvements in allocating funds to states. Also, as state-of-the-art benefit estimates, they provide a stronger argument than has been previously available for overall program funding levels, both for the ES as a whole and for the labor exchange and enforcement activities considered separately.

Our estimates of value include both the output effects, which benefits society as a whole, and the transfer effects of detecting and preventing invalid claims against social accounts. Transfer savings accrue to that portion of society which pays for or which benefits under valid circumstances from income maintenance accounts. Hence, our notion of the "worth" of the ES in this regard represents its value to that portion of society on behalf of which the enforcement activities are carried out. Subject to these reservations, we have arrived at the following conclusions:

- Both the labor exchange and total productivity estimates of the ES are highly sensitive to the range of values assumed for particular quality parameters in our illustrative estimates.
- On the other hand, it is suggestive that even with moderate assumptions source data produce a positive rate of return for the system as a whole in 1974 and for each of the states.
- It is also suggestive that for work test activities, using the most conservative assumptions, the value of transfer savings exceeded costs in all but nine of the 45 states analyzed even if no deterrent effects for refusal of suitable work are included.

7.3 Systematic Evaluations

A conclusion which is perhaps stronger than any of our findings in terms of absolute numbers is that the Employment Service needs an ongoing evaluation and reward system. The shortcomings of the Resource Allocation Formula have been discussed in Chapter 2.0. In addition, we found no correlation between BPF scores and our productivity estimates. If anything, a slight negative relationship as implied by the data. In other words, the BPF score appears unrelated in any significant statistical way to the overall value estimates produced by the model. This result is consistent with our observation in Chapter 2.0 concerning potential deficiencies of the RAF as an incentive mechanism. Further, there is strong evidence that the emphasis in the RAF on placements without regard to corresponding quality dimensions has led Employment Service managers to the pursuit of placements, irrespective of associated durations. If anything, this situation exacerbates turnover problems in the nation's labor market and may, in fact, reinforce structural unemployment tendencies in the economy.

In our opinion, evaluation could be achieved with minor modifications using the present ESARS system plus additional linkages to available unemployment insurance data or other sources updated by research findings on various aspects of ES impact on benefits as they become available. At any rate, both for the purposes of evaluation and analysis, we strongly recommend that the program of obtaining each year a 2% sample of state ESARS transactions records be maintained. We have found this data to be a valuable source of information which at modest cost gives a fairly comprehensive and accurate data base with which to analyze and evaluate the ES. It goes without saying that any improvements to the basic ESARS procedures would be reflected in the 2% sample, and the files forwarded to the National Headquarters of the Employment Service. At present, the ESARS 2% sample is the only centrally compiled source of information which allows quality dimensions of placements to be related to the actual placement counts and to the priority groups receiving placements.

In particular, the entire spectrum of appropriate "social value weights" for various measurable outcomes is in need of extensive theoretical exploration. Such considerations would encompass the following issues:

A. Development of implicit policy goals of alternative social weights for income distribution effects. For example, the placement of a veteran was given the weight of 5 in the (1976) BPF, relative to 3 for minorities, etc. What do these weights imply with regard to "policy desired" relative unemployment rates, relative income distribution among the target groups? What would "unweighted" placements imply? As mentioned earlier, normative answers to these questions are probably outside the scope of research, but delineating a methodology for assessing the implications of any given set of weights would be a fruitful research effort.

B. Similarly, how might efficiency effects be weighted relative to distributive effects? How might earnings differentials accruing to individuals be weighted relative to transfer cost savings (e.g., UI or food stamps)?

C. What proportion of work test benefits should be credited to the ES versus the UI, or in the case of food stamps, to the Food and Nutrition Service of the Department of Agriculture?

D. What other measured of social costs and benefits might be included in addition to the direct effects which have been identified for the major ES activities above?

These and related ES impact and "social value" questions provide a wide array of issues for further conceptual development.

The question of determining appropriate priority weights could be approached in a number of ways. First, the private income effects of ES placements will differ from the social income effects, and to the extent that impacting the income distribution is an objective of the system, these differences should be taken into account. Second, there is some evidence available on the relationship between crimes against property and unemployment which could be brought to bear in the development of priorities. Third, since the Employment Service like any other social program, operates with limited resources, it is, in our view, of some value to develop the capability to study and demonstrate impacts of different distributional policies on the total outputs, value and effectiveness of the system. A simulation capability, for example, could be used to demonstrate to proponents of policy changes the effects on Employment Service efficiency objectives, as well as the full cost of such changes in terms of benefits received by other present beneficiaries of the system and the economy as a whole.

Along with this recommendation, we feel it is essential to link the charter of such an evaluation system to the Employment and Training Administration management or ES management in an operational way. In order for such a system to have a beneficial effect on the Employment Service operations, it must become an integral part of the evaluation and reward system affecting field offices. Managers must understand how they are being evaluated (we feel a social value measure such as the one we have proposed is vastly easier to understand than the present RAF) and must understand that through it, their own performance affects resources available to them.

7.4 Systematic Service Demand Forecasting

As discussed in Chapter 2.0, the RAF is viewed simultaneously as an ex post evaluation tool and as a budget and resource allocation device. Even if the RAF were an appropriate evaluation tool, its present use meshes past performance with future needs. Productivity in the market environment is most assuredly not something which can be predicted on the basis of historical trends alone. Dramatic changes can affect specific industrial sectors (transportation, construction) at entirely different times. There are techniques available for forecasting such changes and consequently for forecasting changes in the economic environment in which the ES system operates. As discussed in Chapters 2.0 and 6.0, the economic environment is an important determinant of the value of ES labor exchange outputs. In fact, our proxy measure for the value of ES job placements is explicitly related to the unemployment rate. Application of such a system does require a much better understanding of how ES output values change as levels of expenditure are increased in order to know how far resource re-allocations should go in any given situation. This is an analytical problem which is tractable with available data and forecasting techniques.

7.5 Policy Questions

It is clear from the history of the Employment Service that policy goals for the ES have never been very clearly specified. Several critics of the system lay the blame for the system's poor performance in the 1960's to the proliferation of goals and constraints which were imposed from above. Largely because the system was there - a vast organizational network reaching into virtually every local area of the country - it was used as the vehicle for nearly every new frontier or great society program of the last decade. This emphasis diverted effort away from the labor exchange activities and the results were easily discernable in terms of a much reduced effectiveness.

With the development of the BPF and subsequently the RAF, the Employment Service system has attempted to achieve a return to its primary role, established under the Wagner-Peyser Act as an employment exchange to improve the functioning of labor markets and alleviate inequity in access to job opportunities. In our judgment, there is now a risk of going too far in the opposite direction. The present funding mechanism and procedures, which will rely heavily on the RAF, ignore placement quality and deal only superficially with policy priorities for distribution of effort to "target" groups.

7.6 Summary of Recommendations

A. Develop a program of ongoing procedures for follow-up of ES labor exchange treatments aimed at capturing both duration and compensation dimensions of placements. Careful study should be undertaken to develop these procedures and to address specific questions such as follow-up timing and the relative importance of non-placement services such as counseling, training referral, and job referral in leading to direct placements.

B. Study and develop standardized measures or approximations of alternative earnings available to individuals placed by the Employment Service. At a minimum, these measures should be sensitive to economic conditions.

C. Develop standardized measures of search time savings attributable to the Employment Service.

D. Analyze the actual unemployment insurance claims experience of UI claimants placed and UI claimants detected by work test activity in order to get a better understanding of the deterrent effect of ES enforcement activities.

E. Develop and implement a systematic ongoing evaluation program on an annual basis to assess the net economic impact of state employment services in a manner which is linked to and consistent with the incentives of ES managers at all levels.

F. Develop a systematic service demand forecasting and budgeting procedure for future resource allocation. Such procedures require analysis and understanding of the relationship between the values of ES outputs and the levels and allocation of Title III appropriations.

G. Develop procedures and mechanisms for demonstrating how different policy objectives for the Employment Service affect the overall output, value, and effectiveness of the Employment Service, and apply this capability to work for clearer expression of policy goals.

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